1961

# 1961-1962 Louisiana Polytechnic Institute Catalog

Louisiana Tech University

# LOUISIANA POLYTECHNIC INSTITUTE

## BULLETIN

CATALOG 1961-1962
ANNOUNCEMENTS 1962-1963

# contents

PART —




VOL. LIX NOVEMBER, 1961 NUMBER 4

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# LOUISIANA POLYTECHNIC INSTITUTE

GENERAL INFORMATION CATALOG

FOR

1961-1962

ANNOUNCEMENTS

FOR

1962-1963

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# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | ~~Sept. 9~~ 16 |
| Semester begins | Mon., Sept. 11 | ~~Sept. 10~~ 17 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | ~~Sept. 11~~ 18 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | ~~Sept. 10-11~~ 17-18 |
| Registration | Wed., Th., Sept. 13-14 | ~~Sept. 12-13~~ 19-20 |
| Classes begin | Fri., Sept. 15 | ~~Sept. 14~~ 21 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Noon ~~Sat.~~ ~~Dec. 18~~ 22 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | ~~8~~ a.m., Jan. ~~2~~ 7 |
| Commencement | Tues., Jan. 23 | Jan. ~~22~~ 29 |
| Semester ends | Wed., Jan. 24 | Jan. ~~23~~ 30 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | ~~Jan. 29~~ Feb. 5 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | ~~Jan. 30-31~~ Feb. 6-7 |
| Classes begin | Fri., Feb. 2 | ~~Feb. 1~~ 8 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | ~~May 26~~ June 2 |
| Commencement | Mon., May 28 | ~~May 27~~ June 3 |
| Semester ends | Wed. May 30 | ~~May 29~~ June 5 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June ~~3~~ 10 |
| Registration; term begins | Tues. June 6 | June 5 | June ~~4~~ 11 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. ~~1~~ 8 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. ~~2~~ 9 |

## 1961

### JANUARY

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### FEBRUARY

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### MARCH

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### APRIL

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### JUNE

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### JULY

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### AUGUST

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### SEPTEMBER

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### OCTOBER

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## 1962

### JANUARY

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### FEBRUARY

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### MARCH

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### APRIL

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### JUNE

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### AUGUST

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### SEPTEMBER

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### OCTOBER

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### NOVEMBER

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### DECEMBER

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## 1963

### JANUARY

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### FEBRUARY

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### MARCH

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### APRIL

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### JUNE

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### JULY

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### AUGUST

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### SEPTEMBER

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### OCTOBER

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### NOVEMBER

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### DECEMBER

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| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

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Shelby M. Jackson, *Secretary and Executive Officer*
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Helen Graham, B.S., M.A. ..... *Dean Emeritus, School of Home Economics*

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Burton R. Risinger, B.A., M.B.A. ..... *School of Business Administration*
John B. Wilson, B.A., M.A., Ph.D. ..... *School of Arts and Sciences*
Clifford T. Woodard, B.A., M.A. ..... *School of Education*

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S. X. Lewis, B.A., Louisiana Polytechnic Institute; M.S., University of Arkansas (1938) ..... *Dean of Men*

Mabel May, B.A., M.A. (1936) ..... *Registrar*[2]

## OTHER ADMINISTRATORS

Joe Aillet, B.A., M.A. (1939) ..... *Director of Athletics*
Elenora A. Cawthon, B.S., M.Ed., Ed.D. (1955) ..... *Director of Department of Placement and Services*
J. W. Evans, B.S. (1931) ..... *Auditor*
Kenneth F. Hewins, B.A., M.A., (1929) ..... *Director of Publicity*
Henry R. Mays, Jr., B.S. (1938) ..... *Superintendent of Printing*
W. H. McLaurin, B.A. (1948) ..... *Business Manager*
H. C. Pyburn, B.I. (1941) ..... *Superintendent, Buildings and Grounds Dept.*
Hazel Shively, B.A., M.A. (1957) ..... *Guidance Counselor*
Ernest J. Scheerer, B.A., B.S., M.A., M.S. (1938) ..... *Librarian*
Johnnie A. Speights, B.S. (1955) ..... *Superintendent of Dining Halls*
Arthur C. Thigpen, B.S., M.S. (1947) ..... *Director of Student Employment and Assistant to the Dean of Engineering*

[1]Dates indicate first connection with faculty of Louisiana Polytechnic Institute.
[2]For information, write the registrar.

# OFFICERS OF INSTRUCTION

## HEADS OF DEPARTMENTS

ACCOUNTING: Harold J. Smolinski — B.A., Louisiana State Normal College; M.B.A., Louisiana State University; C.P.A., Louisiana. (1941)

AGRICULTURAL ENGINEERING: John J. McDow—B.S., University of Tennessee; M.S., Ph.D., Michigan State University; Registered P.E., Louisiana. (1951)

AGRONOMY AND HORTICULTURE: Charles G. Hobgood—B.S., M.S., Louisiana State University. (1941)

AIR SCIENCE: Jack A. Murphy, Lt. Col. USAF—A.B., University of Tennessee. (1960)

ANIMAL INDUSTRY: Hal B. Barker—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Alabama Polytechnic Institute. (1949)

ART: F. Elizabeth Bethea—B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1926)

BOTANY AND BACTERIOLOGY: M. Hayne Folk, Jr.—B.S., Clemson Agricultural College; M.S., Louisiana State University. (1926)

BUSINESS: Amos W. Ford—B.A., Baylor University; M.A., University of Chicago. (1929-1949) (1955)

BUSINESS AND ECONOMIC RESEARCH: Howard L. Balsley—A.B., M.A., Ph.D., Indiana University. (1954)

CHEMISTRY: Charles Hooper Smith — B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University. (1940)

ECONOMICS: Paul T. Hendershot—B.A., Henderson State Teachers College; M.A., Ph.D., Louisiana State University. (1947)

EDUCATION: Clifford T. Woodard—B.A., Louisiana Polytechnic Institute; M.A., George Peabody College. (1947)

EDUCATION, Elementary: Jason C. Owen—B.A., Louisiana Polytechnic Institute; M.A., Colorado State College of Education; Ed.D., University of Missouri. (1949)

EDUCATION, Secondary: John Ardis Cawthon—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University; Ed.D., University of Texas. (1954)

ENGINEERING, Chemical: Woodrow W. Chew—B.S., New Mexico A. and M.; M.S., Oklahoma A. and M.; Registered P.E., Louisiana. (1940)

ENGINEERING, Civil: Richard A. Smith—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana and Virginia. (1947)

ENGINEERING, Electrical: David L. Johnson—B.A., Berea College; B.S., M.A., University of Iowa; M.S., Oklahoma A. and M. College; Ph.D., Oklahoma State University. Registered P.E., Oklahoma. (1955)

ENGINEERING, General: H. L. Henry, Jr.—B.S., Louisiana Polytechnic Institute; M.S., Illinois Institute of Technology; Registered P.E., Texas and Louisiana. (1946-1951) (1955)

ENGINEERING, Mechanical: J. J. Thigpen—B.S., Louisiana Polytechnic Institute; B.S., U. S. Military Academy; M.S., Ph.D., University of Texas; Registered P. E., Louisiana. (1947)

ENGINEERING, Petroleum and Geological: Melvin A. Nobles—B.A., Abilene Christian College; B.S., Texas Technological College; M.S., Ph.D., University of Texas; Registered P.E., Oklahoma. (1957)

ENGINEERING RESEARCH: Virgil Orr—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University; Registered P.E., Louisiana. (1952)

ENGLISH AND FOREIGN LANGUAGES: H. J. Sachs—Ph.B., M.A., University of Chicago; Ph.D., George Peabody College. (1929)

FORESTRY: Lloyd P. Blackwell—B.A., Lynchburg College; M.F., Yale University. (1946)

HEALTH AND PHYSICAL EDUCATION: George B. Hogg —B.A., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1934)

HOME ECONOMICS: Alice Millett Graham—B.S., New Mexico State Teachers College; M.S., Iowa State College. (1944)

JOURNALISM: Kenneth F. Hewins—B.A., M.A., Indiana University. (1929)

MATHEMATICS: W. B. Temple—B.A., Louisiana College; M.A., Louisiana State University; Ph.D., University of Texas. (1948)

MUSIC: Marshall E. Bretz—B.S., West Chester State Teachers College; M.S.M., S.M.D., Union Theological School of Music. (1944)

OFFICE ADMINISTRATION: Lucille W. Campbell—B.S., University of Mississippi; M.A., Columbia University. (1929)

HEADS OF DEPARTMENTS (CONTINUED)

PHYSICS: Horace Ewing Ruff, Jr.—B.S., Hendrix College, M.S., Louisiana State University; Ph.D., Iowa State College. (1938)

SOCIAL SCIENCES: Garnie W. McGinty—B.A., Louisiana State Normal College; M.A., George Peabody College; Ph.D., University of Texas. (1928)

SPECIAL EDUCATION CENTER: Ralph L. Wooldridge—B.S., M.A., Baylor University. (1955)

SPEECH: Paul J. Pennington — B.A., Henderson State Teachers College; M.A., Oklahoma University; Ph.D., Louisiana State University. (1952)

ZOOLOGY: Roland Abegg—B.A., University of Michigan; M.S., Ph.D., Louisiana State University. (1959)

FACULTY

Roland Abegg, *Professor of Zoology*—B.A., University of Michigan; M.S., Ph.D., Louisiana State University. (1959)

Francis O. Adam, Jr., *Professor of Spanish*—B.A., William and Mary College; M.L., University of Mexico; Ph.D., University of Illinois. (1937)

Francis L. Afeman, *Professor of Zoology*—B.S., Southwestern Louisiana Institute; M.S., Louisiana State University. (1934)

Joe Aillet, *Professor, Director of Athletics, Head Football Coach*—A.B., Southwestern Louisiana Institute; M.A., Louisiana State University. (1939)

Rhesa M. Allen, Jr. *Professor of Geology*—B.S., Virginia Polytechnic Institute; M.S., University of Idaho; Ph.D., Cornell University; Registered P.E. (Mining), West Virginia. (1957)

Edward R. Andrulot, *Assistant Professor of Forest Management*—B.S.F., University of Michigan; M.S., Louisiana Polytechnic Institute. (1956)

*Harry W. Atkinson, *Assistant Professor of Civil Engineering*—B.S., University of Illinois. Registered P.E., Louisiana. (1958)

Edwin Peter Axten, *Assistant Professor of Sociology*—B.A., Drake University; M.A., University of Iowa. (1959)

Stewart Baggarly, *Associate Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Texas. Registered P.E., Louisiana. (1954)

Howard L. Balsley, *Professor of Business Statistics*—A.B., M.A., Ph.D., Indiana University. (1954)

*On leave, 1961-62

Irol Whitmore Balsley, *Professor of Office Administration*—A.B., Nebraska State Teachers College; M.S., University of Tennessee; Ed.D., Indiana University. (1954)

Hal B. Barker, *Professor of Dairying*—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Alabama Polytechnic Institute. (1949)

Oscar P. Barnes, *Supervisor; Secondary Education*—B.M., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1959)

Joseph H. Barnwell, *Professor of Mechanical Engineering*—B.S., Georgia Institute of Technology; M.S., Texas A.&M. College; Registered P.E., Louisiana. (1941-1951) (1958)

Helen Barron, *Assistant Professor of Home Economics*—B.S., East Texas State College; M.A., Texas Woman's University. (1959)

Wilma Baugh, *Associate Professor of Speech*—B.S., Missouri State Teachers College; M.A., Northwestern University. (1946)

Frederick E. Beckett, *Professor of Agricultural Engineering*—B.S., Mississippi State College; M.S., Ph.D., Oklahoma State University; Registered P.E., Louisiana. (1952)

Wilbur L. Bergeron, *Associate Professor of Psychology*—B.A., Louisiana College; M.A., George Peabody College; Ed.D. University of Arkansas. (1953)

F. Elizabeth Bethea, *Professor of Art*—B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1926)

Lloyd P. Blackwell, *Professor of Forestry*—B.A., Lynchburgh College; M.F., Yale University. (1946)

Ben Taylor Bogard, *Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1937)

George Paul Bonner, *Associate Professor of Physics*—B.S., Louisiana Polytechnic Institute; M.S., Florida State University. (1950-1952) (1956)

Wilma Smith Booles, *Instructor of Education*—B.S., Northwestern State College; M.S., Oklahoma A. and M. College. (1954)

Wilmore J. Bordelon, *Professor of Education*—B.A., Southwestern Louisiana Institute; M.A., Ph.D., Louisiana State University. (1947)

Marshall E. Bretz, *Professor of Music*—B.S., West Chester State Teachers College; M.S.M., S.M.D., Union Theological School of Music. (1944)

James K. Brewer, *Instructor of Mathematics*—B.S., Ouachita College; M.S., Louisiana State University. (1960)

Louise L. Brooks, *Assistant Professor of Speech*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1954)

Harry Matthew Brown, *Associate Professor of English*—Th.B., Cleveland Bible College; A.B., Baldwin-Wallace College; M.A., Ph.D., Western Reserve University. (1956)

*William H. Brumage, *Associate Professor of Physics*—B.S., M.S., Oklahoma A. and M. College. (1952)

Ernest W. Bryant, *Assistant Professor of Dairying*—B.S., Southeastern Louisiana College; M.S., Louisiana State University. (1956)

Merle Burk, *Professor of Home Economics*—B.S., Louisiana Polytechnic Institute; M.A., State University of Iowa. (1932)

Rudolph V. Burrough, *Assistant Professor of Education*—B.S.E., Arkansas State Teachers College; M.A., Columbia University. (1955)

Eugene P. Burton, *Assistant Professor of Mathematics*—B.S., Henderson State Teachers College; M.A., University of Arkansas. (1955)

W. H. Bussell, Jr., *Associate Professor of Mechanical Engineering*—B.M.E., M.S., University of Florida; Registered P.E., Florida. (1957)

A. Z. Butler, *Associate Professor of English*—B.A., University of South Carolina; M. A., Vanderbilt University. (1948)

James F. Butler, *Assistant Professor of Business and Economics*—B.A., Arkansas State Teachers College; M.B.A., University of Arkansas. (1961)

Katherine Butler, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., Columbia University. (1931-43) (1944)

John D. Calhoun, *Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1948)

Bobby Gene Campbell, *Supervisor, Secondary Education*—B.S., M.S., Louisiana Polytechnic Institute. (1960)

Lucille W. Campbell, *Professor of Office Administration*—B.S., University of Mississippi; M.A., Columbia University. (1929)

*Jack Canterbury, *Assistant Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas; Registered P.E., Louisiana. (1958)

*On leave, 1961-62

*Robert E. Carlile, *Assistant Professor of Petroleum Engineering*—B.S., M.S., University of Tulsa; Registered P.E., Louisiana. (1960)

Pauline Cassel, *Supervisor, Elementary Education*—A.B., M.Ed., Louisiana State University. (1952)

Robert L. Cason, Jr., *Associate Professor of Physics*—B.S., Southeastern Louisiana College; M.S., Louisiana State University. (1948)

Annis Cawthon, *Assistant Professor of Mathematics*—B.A., M.S., Louisiana Polytechnic Institute. (1959)

John Ardis Cawthon, *Professor of Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University; Ed.D., University of Texas. (1954)

Duchein A. Cazedessus, *Associate Professor of Music*—M.S., Louisiana State University; M.M., Manhattan School of Music. (1949)

Charles C. Chadbourn, Jr., *Associate Professor of English*—B.A., Union College; M.A., Columbia University; Ph.D., Syracuse University. (1955)

Woodrow W. Chew, *Professor of Chemical Engineering*—B.S., New Mexico A. and M. College; M.S., Oklahoma State University; Registered P.E., Louisiana. (1940)

J. Gale Chumley, *Associate Professor of General Engineering*—B.A., B.S., Central State College; M.S., Oklahoma State University. (1949)

Glenn E. Clark, *Associate Professor of Animal Husbandry*—B.S., Louisiana State University; M.S., Texas A. and M. College. (1952)

Martha Clingan, *Supervisor, Secondary Education*—B.A., Louisiana College; M.A., Louisiana State University (1947)

LaRue Cocanougher, *Associate Professor of Education*—A.B., Centre College; M.A., Ed.D., George Peabody College. (1956)

Agnes C. Cofer, *Associate Professor of Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1944-49) (1955)

Sophia S. Cook, *Supervisor, Secondary Education*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1947)

Edith M. Cotton, *Associate Professor of Music*—B.A., University of Minnesota; M.A., Northwestern University. (1943)

*On leave, 1961-62

Archie William Craig, *Assistant Professor of Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1955)

Nelwyn McDonald Craig, *Assistant Professor of Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1956)

William M. Crow, *Associate Professor of Education*—B.S., Louisiana Polytechnic Institute; M.S., Ed.D., University of Arkansas. (1959)

Cecil C. Crowley, *Associate Professor, Head Basketball and Tennis Coach*—B.S., Centenary College; M.A., Louisiana State University. (1940)

Cliffo Jean D. Crump, *Assistant Professor of Office Administration*—B.B.A., M.B.E., North Texas State College. (1952)

James W. DeMoss, Jr., *Associate Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1948)

Lee L. Denny, *Associate Professor of General Engineering*—B.S., M.S., University of Arkansas. (1958)

George E. Doherty, *Associate Professor, Assistant Football and Track Coach*—B.S., Louisiana Polytechnic Institute; M.A., George Peabody College. (1957)

Mary M. Doherty, *Acting Instructor of English*—B.S., Louisiana Polytechnic Institute. (1959)

T. H. Dosher, *Assistant Professor of Journalism*—B.S., Louisiana Polytechnic Institute. (1958) (1960)

J. Edward Dowdey, *Associate Professor of Physics*—B.S., M.S., Ph.D., University of Texas. (1959)

Sammy A. Dyson, *Associate Professor, Library Science*—B.S., Northwestern State College; M.S. (L.S.), Louisiana State University. (1960)

Sibyl J. Edmunds, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1948-1952) (1953)

C. H. Edwards, Jr., *Associate Professor of Civil Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Texas; Registered P.E., Louisiana. (1949)

Robert Elioff, *Associate Professor of Physics*—B.S., Louisiana Polytechnic Institute; M.S., University of Florida. (1947)

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Hoyt Q. Farquhar, Captain, USAF, *Assistant Professor of Air Science.* (1959)

Donald L. Fernholz, *Professor of Botany*—B.A., Milton College; M.S., University of Wisconsin; Ph.D., Ohio State University. (1949)

Russell C. Ferrington, *Assistant Professor of Accounting*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1953)

Rudolph Fiehler, *Associate Professor of English*—A.B., Valparaiso University; M.A., Marquette University; Ph.D., University of Texas. (1956)

Odie LeRoy Fitzgerald, *Associate Professor of Forest Utilization*—B.S., Louisiana Polytechnic Institute; M.F., Duke University. (1951)

M. Frances Fletcher, *Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., University of Virginia; Ph.D., Louisiana State University. (1940)

Willie Fletcher, *Professor of Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., Iowa State College. (1942)

Lucile P. Folk, *Assistant Professor of English*—A.B., Grenada College; M.A., George Peabody College; Ph.D., Louisiana State University. (1954)

M. Hayne Folk, Jr., *Professor of Botany*—B.S., Clemson Agricultural College; M.S., Louisiana State University. (1926)

Amos W. Ford, *Professor of Management and Economics*—B.A., Baylor University; M.A., University of Chicago. (1929-1949) (1955)

Bobby Lee Freeman, *Assistant Professor of Psychology*—B.A., M.A., Baylor University. (1960)

George P. Freeman, *Professor of Education*—B.A., Louisiana State University; M.A., Columbia University, Ed.D., George Peabody College. (1947)

Lucy Gandy, *Assistant Professor of Physical Education*—B.S., Texas State College for Women; M.A., Colorado State College of Education. (1950-1955) (1958)

Mildred M. Gantt, *Associate Professor, Library Science*—A.B., Howard College; B.S. (L.S.), Louisiana State University; M.S. (L.S.) George Peabody College. (1949)

Jackie B. Garner, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1957)

L. J. Garrett, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.E., Louisiana State University. (1951)

Mary Alice Garrett, *Supervisor, Secondary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1960)

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R. J. Gewin, *Acting Instructor of Electrical Engineering*—B.S., Louisiana Polytechnic Institute. (1961)

Jimmie D. Gilbert, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1958)

Martin Goldsworth, *Assistant Professor of Mathematics*—B.S., University of Houston; M.S., Alabama Polytechnic Institute. (1959)

Benjamin F. Grafton, *Associate Professor of Agronomy*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1947)

Alice Millett Graham, *Professor of Home Economics*—B.S., New Mexico State Teachers College; M.S., Iowa State College. (1944)

Kenneth R. Grubbs, *Professor of Economics and Finance*—B.S., M.S., North Texas State College; Ph.D., University of Texas. (1952)

Thomas D. Guthrie, Jr., *Acting Instructor of General Engineering*—B.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1959)

Winston P. Hackbarth, *Associate Professor of Botany*—B.A., State University of Iowa; B.S., Idaho State College; M.S., University of Denver; Ph.D., Iowa State College. (1959)

David A. Hake, *Instructor of Data Processing*—B.S., M.B.A., University of Kentucky. (1961)

Robert Glenn Hanchey, *Supervisor, Secondary Education*—B.S., Southwestern Louisiana Institute; M.A., Louisiana State University. (1952)

Mark Randolph Harris, *Associate Professor of Art*—B.A., Louisiana Polytechnic Institute; M.A., Columbia University. (1953)

Barney W. Hart, *Acting Instructor of Physics*—B.S., M.S., Louisiana Polytechnic Institute. (1960)

Doris Burd Haskell, *Associate Professor of Music*—New England Conservatory of Music; B.M., M.M., Chicago Conservatory of Music. (1926)

John N. Hay, *Assistant Professor of Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1952)

Hollis C. Hearne, *Associate Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.Ed., Louisiana State University. (1946)

Paul T. Hendershot, *Professor of Economics and Finance*—B.A., Henderson State Teachers College; M.A., Ph.D., Louisiana State University. (1947)

H. L. Henry, Jr., *Professor of General and Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Illinois Institute of Technology; Registered P.E., Texas and Louisiana. (1946-1951) (1955)

Wallace Herbert, *Professor of Mathematics*—B.S., Ouachita College; M.S., Louisiana State University; Ed.D., Oklahoma A. and M. College. (1942)

Kenneth F. Hewins, *Professor of Journalism*—B.A., M.A., Indiana University. (1929)

J. D. Hickman, *Acting Instructor of Mathematics*—B.A., Louisiana College; M.Ed., Louisiana State University. (1961)

William R. Higgs, *Assistant Professor of Geology*—B.S., M.S., University of Alabama; Registered P.E., Louisiana. (1955)

Dorothy Ann Hines, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1955)

Charles G. Hobgood, *Professor of Agronomy*—B.S., M.S., Louisiana State University. (1941)

Cora A. Hoffpauir, *Assistant Professor of Art*—B.F.A., M.Ed., University of Texas. (1958)

Thesta Walker Hogan, *Associate Professor, Library Science*—A.B., Centenary College of Louisiana; B.S., (L.S.), Louisiana State University; M.A., University of Mississippi (1944) (1946-1949) (1951)

George B. Hogg, *Professor of Physical Education*—B.A., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1934)

Richard Burton Howe, *Instructor of Mathematics*—B.S., Delta State College; M.S., Mississippi State University. (1961)

Clifton M. Huddleston, Jr., *Assistant Professor of Education*—B.A., North Texas State Teachers College; M.S.W., Tulane University. (1957)

Jarrett Hudnall, Jr., *Assistant Professor of Marketing*—B.B.A., M.B.A., University of Texas. (1961)

Claud J. Irby, *Acting Instructor of Electrical Engineering*—B.S., M.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1959)

Kathryn M. Jenkins, *Acting Instructor of English*—B.A., Louisiana Polytechnic Institute. (1959)

*David E. Johnson, *Associate Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1954)

David L. Johnson, *Professor of Electrical Engineering*—B.A., Berea College; B.S., M.A., University of Iowa; M.S., Ph.D., Oklahoma State University; Registered P.E., Louisiana, Oklahoma. (1955)

Eugenia M. Johnson, *Instructor of English*—B.S., University of Oklahoma; M.A., Oklahoma State University. (1955) (1958)

James T. Johnson, *Professor of Accounting*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University; C.P.A., Louisiana. (1948)

Johnny R. Johnson, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1958)

Milton R. Johnson, Jr., *Professor of Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Oklahoma State University; Registered P.E., Louisiana, Arkansas. (1947)

Ruth Johnson, *Supervisor, Secondary Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1947)

T. W. Ray Johnson, *Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1938)

E. Carl Jones, *Associate Professor of Economics*—B.S., Southwestern Louisiana Institute; M.S., Louisiana State University. (1947)

George Edward Jones, *Assistant Professor of English*—B.A., M.A., East Texas State Teachers College. (1954)

Helen W. Jones, *Instructor of Office Administration* (Part-time—B.S., M.A., Louisiana Polytechnic Institute. (1960)

Henry A. Kallsen, *Professor of Civil Engineering*—B.S., Iowa State College; M.S., Ph.D., University of Wisconsin; Registered P.E., Louisiana, Wisconsin. (1959)

*On leave, 1961-62

Edna Earle Kavanaugh, *Supervisor, Secondary Education*—B.S., Mississippi Southern; M.S., Indiana University. (1939-1941) (1948) (1949)

Ethel H. Kelly, *Associate Professor of Office Administration* A.B., Northwestern State College; M.B.A., Louisiana State University. (1947)

Claudine Crawley Kennedy, *Assistant Professor of Office Administration*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1950)

S. S. Kilgore, *Associate Professor of Zoology*—A.B., Union College; M.S., Stetson University. (1952)

Charles A. Killgore, *Instructor of Chemical Engineering*—B.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1959)

Ellis M. Killgore, *Associate Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Georgia Institute of Technology; Registered P.E., Louisiana. (1949-1952) (1953)

William S. Knight, *Professor of Accounting*—B.S., University of Alabama; M.B.A., University of Denver; C.P.A., Tennessee and Louisiana. (1948)

Kermit Knighton, *Associate Professor of Business Machines and Accounting*—B.A., Louisiana Polytechnic Institute; M.A., Stephen F. Austin State College. (1940)

Walter E. Koss, *Professor of Mathematics*—A.B., M.A., University of Alabama; Ph.D., University of Illinois. (1957)

John Kuprionis, *Associate Professor of Silviculture*—B.S.F., College of Agriculture in Lithuania; M.F., Michigan State College. (1952)

Robert Alex Laney, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.Ed., University of Arkansas. (1960)

Troy J. Laswell, *Professor of Geology*—A.B., Berea College; M.A., Oberlin College; Ph.D., University of Missouri; Registered P. E., Missouri. (1957)

Sybil F. Leachman, *Assistant Professor of Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Northwestern State College. (1959)

Dwight A. Lee, *Associate Professor of English*—A.B., B.S., Southwest Missouri State; M.A., Ph.D., University of Missouri. (1957)

Marjorie C. Leigh, *Associate Professor, Library Science*—B.S., George Peabody College; B.A., (L.S.), Emory University; M.A., George Peabody College. (1927)

Calvin A. Lemke, *Assistant Professor of Civil Engineering*—B.S., M.S., Texas A. and M. College; Registered Surveyor, Texas. (1956)

Charlotte Lewis, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1949)

William C. Lockett, Jr., Captain, USAF, *Assistant Professor of Air Science*—B.S., M.B.A., Jackson College. (1958)

Lowell A. Logan, *Associate Professor of Botany*—B.A., Henderson State Teachers College; M.S., University of Arkansas; Ph.D., University of Missouri. (1960)

John R. Luce, *Assistant Professor of Music*—B.M., University of Texas; M.M., University of Michigan; Ed.D., University of Nebraska. (1958)

Edward Graham Luck, *Assistant Professor of Speech*—B.A., M.A., Louisiana State University. (1957)

Dallas D. Lutes, *Associate Professor of Botany*—B.S., Louisiana Polytechnic Institute; Ph.D., University of Missouri. (1955)

James Henry Madden, *Acting Instructor of Civil Engineering* (Part-time)—B.S., Louisiana Polytechnic Institute. (1960)

Glen N. Maddox, Captain, USAF, *Assistant Professor of Air Science*—B.S., M.S., Alabama Polytechnic Institute. (1958)

Harry Richard Mahood, *Assistant Professor of Political Science*—B.A., M.A., University of Oklahoma; Ph.D., University of Illinois. (1960)

Walton J. Mallerich, *Assistant Professor of Education*—Ph.B., M.Ed., Loyola University. (1960)

James W. Malone, *Associate Professsor of Chemical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1947) (1956)

Jack B. Martin, Jr., *Associate Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., University of Texas. (1947)

Martha M. Martin, *Assistant Professor, Library Science*—B.S., Mississippi State College for Women; M.L.S., University of Mississippi. (1957)

Jimmy McAdams, *Acting Instructor of Mechanical Engineering* (Part-time)—B.S., Louisiana Polytechnic Institute. (1961)

Fairy C. McBride, *Associate Professor of Business Writing*—B.A., Louisiana Polytechnic Institute; M.B.A., University of Denver. (1933)

Laura Mae McCullin, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.E., Louisiana State University. (1953)

Richard I. McDonald, *Acting Instructor of Electrical Engineering* (Part-time)—B.S., Louisiana Polytechnic Institute. (1961)

John J. McDow, *Professor of Agricultural Engineering*—B.S., University of Tennessee; M.S., Ph.D., Michigan State University; Registered P.E., Louisiana. (1951)

Garnie W. McGinty, *Professor of History*—B.A., Louisiana State Normal College; M.A., George Peabody College; Ph.D., University of Texas. (1928)

Albert G. McKee, *Assistant Professor of General Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Mississippi. Registered P.E., Louisiana. (1957)

Lovick P. McLane. *Professor of Physical Education*—B.A., Maryville College; M.A., Howard College; M.S., Louisiana State University. (1934)

Robert W. McLeane, *Associate Professor of Civil Engineering* —B.S., M.S., Missouri School of Mines and Metallurgy. (1957)

Andrew J. McPhate, *Acting Instructor of Mechanical Engiing* (Part-time)—B.S., Louisiana Polytechnic Institute. (1960)

Wilbur T. Meek, *Professor of Economics and Management* —A.B., Princeton University; A.M., Ph.D., Columbia University. (1949)

John Milstead, *Associate Professor of English*—B.S., University of New Mexico; M. A., State University of Iowa; Ph.D., University of Wisconsin. (1958)

James W. Mize, *Associate Professor, Assistant Football Coach, Head Track Coach*—B.S., Louisiana Polytechnic Institute; M.E., Louisiana State University. (1946)

Mary W. Moffett, *Professor of Art*—B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1928)

Robert W. Mondy, *Professor of History*—B.A., Louisiana Polytechnic Institute; M.A., Ph.D., University of Texas. (1936)

*John A. Moore, *Professor of Botany*—B.S., Butler University; M.S., State College of Washington; Ph.D., Washington University. (1947)

Louise R. Morgan, *Instructor of English and Foreign Languages*—B.S., University of Texas; M.A., Louisiana State University. (1938) (1940) (1943) (1946) (1949) (1950) (1950)

John W. Morton, Jr., *Professor of Chemistry*—B.S., Southern Methodist University; Ph.D., Iowa State College. (1954)

Edward H. Moseley, *Assistant Professor of History*—B.A., M.A., University of Alabama. (1960)

H. E. Moseley, *Instructor of Chemistry*—B.S., M.S., Louisiana State University. (1961)

Jack A. Murphy, Lt. Col. USAF, *Professor of Air Science*—A.B., University of Tennessee. (1960)

Robert H. Newell, *Assistant Professor of Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas; Registered P.E., Louisiana. (1956)

Melvin A. Nobles, *Professor of Petroleum and Geological Engineering*—B.A., Abilene Christian College; B.S., Texas Technological College; M.S., Ph.D., University of Texas; Registered P.E., Oklahoma. (1957)

Dwayne L. Oglesby, *Associate Professor of Law*—B.A., M.A., LL.B., University of Kansas. (1955)

Bernice O'Neal, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., Colorado State Teachers College. (1940)

Virgil Orr, *Professor of Chemical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University; Registered P.E., Louisiana. (1952)

Jason C. Owen, *Associate Professor of Education*—B.A., Louisiana Polytechnic Institute; M.A., Colorado State College of Education; Ed.D., University of Missouri. (1949)

Caroline Paddock, *Associate Professor, Library Science*—A.B., Texas Women's College; B.S. (L.S.), University of Denver; M.L.S., University of California. (1948)

Jack T. Painter, *Associate Professor of Civil Engineering*—B.S., M.S., West Virginia University; Registered P.E., Louisiana. (1955)

Gustaf H. Panula, *Professor of Chemical Engineering*—B.S., Michigan College of Mining and Technology; Ph.D., Univerisity of Colorado; Registered P.E., Illinois. (1954)

James W. Patterson, *Associate Professor of Veterinary Science* (Part-time)—D.V.M., Alabama Polytechnic Institute. (1953)

*On leave, 1961-62

Selma Hicks Patton, *Associate Professor of Chemistry*—LL.B., B.A., University of Louisville; M.S., Ph.D., Purdue University. (1956)

Paul J. Pennington, *Professor of Speech*—B.A., Henderson State Teachers College; M.A., Oklahoma University; Ph.D., Louisiana State University. (1952)

Morgan D. Peoples, *Supervisor, Secondary Education*—B.S., Northwestern State College; M.A., Louisiana State University. (1954)

Frances Maxine Pepper, *Supervisor, Elementary Education*—B.S., Delta State Teachers College; Ed.M., Boston University School of Education. (1944)

George C. Poret, *Professor of Psychology*—L.I., Louisiana State Normal College; A.B., Southwestern Louisiana Institute; M.A., Louisiana State University; Ph.D., George Peabody College. (1939)

Elaine Preston, *Assistant Professor of Education*—B.S.E., Henderson State Teachers College; C.S.W., Louisiana State University; M.S.W., Columbia University. (1960)

Laverne E. Pyburn, *Supervisor, Elementary Education*—B.A., M.A., Texas State College for Women. (1956)

B. H. Rainwater, Jr., *Instructor of Finance (Part-time)*—B.S., Louisiana Polytechnic Institute. (1961)

John Clark Ramsaur, *Assistant Professor of General Engineering*—B.S., Louisiana State University; M.S., University of Arkansas. (1954)

Oneil J. Richard, *Associate Professor of French*—B.A., Southwestern Louisiana Institute; M.A., McGill University; Ph.D., Tulane University. (1955)

Ruth Richardson, *Professor of Home Economics*—B.A., Louisiana State Normal; M.S., Louisiana State University. (1938)

Bromfield L. Ridley, *Associate Professor of Zoology*—B.S., M.S., University of Kentucky; Ph.D., Iowa State University. (1961)

Burton R. Risinger, *Professor of Business Administration*—B.A., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1945)

William R. Rives, *Professor of Accounting*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University; C.P.A., Arkansas. (1952)

Conrad Harold Ross, *Instructor of Art*—B.A., University of Illinois; M.A., University of Iowa. (1961)

C. R. Rostron, *Assistant Professor of Civil Engineering*—B.S., Iowa State College; M.S., University of Houston; Registered P.E., Louisiana and Texas. (1955)

Francis C. Roy, *Associate Professor of Electrical Engineering*—B.S., Louisiana State University; M.S., University of Texas. Registered P.E., Louisiana. (1955)

Horace Ewing Ruff, Jr., *Professor of Physics*—B.S., Hendrix College; M.S., Louisiana State University; Ph.D., Iowa State College. (1938)

Ernest J. Russell, *Associate Professor of Forestry*—B.A., Louisiana Polytechnic Institute; M.F., Louisiana State University. (1947)

V. Earvin Ryland, *Supervisor, Secondary Education*—B.S., Northwestern State College; M.S., George Peabody College. (1957)

H. J. Sachs, *Professor of English*—Ph.B., M.A., University of Chicago; Ph.D., George Peabody College. (1929)

Ellis Sandoz, *Assistant Professor of Political Science*—B.A., M.A., Louisiana State University. (1959)

James B. Sanford, Major, USAF, *Assistant Professor of Air Science*—B.A., University of Maryland. (1961)

Coralie Saunders, *Supervisor, Secondary Education*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1947)

Ernest J. Scheerer, *Professor, Library Science*—B.A., Miami University; B.S. (L.S.), University of Illinois; M.A., University of Cincinnati; M.S. (L.S.), University of Illinois. (1938)

Henry F. Schroeder, *Professor of Mathematics*—B.A., M.S., Louisiana State University. (1931)

Philip Shea, *Instructor of Geography*—B.A., Middlebury College; M.A., Michigan State University. (1960)

Joe G. Sheppard, *Associate Professor of Music*—B.S., University of Texas; M. Mus. Ed., Vandercook College of Music. (1951)

Ernest M. Shirley, *Professor of Mathematics*—B.S., Louisiana State University; M.A., University of Arkansas. (1926)

Hazel Shively, *Professor, Guidance—B.A., Louisiana* Polytechnic Institute; M.A., Louisiana State University. (1957)

Ruth F. Shoap, *Assistant Professor, Library Science*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1956)

Myldred L. Simmons, *Librarian, Elementary Education*—B.A., B.S. (L.S.), Louisiana State University. (1949)

Charles Hooper Smith, *Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University. (1940)

Frellsen F. Smith, *Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., University of Texas. (1938)

James B. Smith, *Instructor of Music*—B.M., M.M., Peabody Conservatory and College of Music. (1961)

Richard A. Smith, *Professor of Civil Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana and Virginia. (1947)

Harold J. Smolinski, *Professor of Accounting*—B.A., Louisiana State Normal College; M.B.A., Louisiana State University; C.P.A., Louisiana. (1941)

Robert C. Snyder,*Associate Professor of English*—B.S., Alabama State Teachers College; M.A., Western Kentucky State Teachers College. (1947)

Johnnie A. Speights, *Part-time Instructor of Home Economics*—B.S., Louisiana Polytechnic Institute; A.D.A. (1945)

Walter Stagg, Jr., *Acting Instructor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute. (1960)

Richard M. Steere, *Professor of Electrical Engineering*—B.S., E.E., Alabama Polytechnic Institute; M.S., Massachusetts Institute of Technology; Registered P.E., Louisiana. (1955)

Thomas E. Stewart, *Supervisor, Secondary Education*—B.S., Louisiana State Normal College; M.A., Louisiana State University. (1950-1953) (1957)

Portia Stokes, *Instructor, Library Science*—B.F.A., University of Oklahoma; M.S., Louisiana State University. (1959)

Arthur W. Stone, *Associate Professor of Speech*—A.B., Hiram College; M.A., Western Reserve University. (1947)

Lorimer E. Storey, *Professor of Political Science*—B.A., Louisiana State Normal College; M.A., Louisiana State University. (1945)

R. E. Storms, *Assistant Professor of Petroleum Engineering* —B.S., M.S., Texas A. and M. College; Registered P.E., Texas, Louisiana. (1959)

Martha I. Strayhorn, *Instructor of English*—B.A., Murray State College; M.A., George Peabody College. (1957)

Margaret Sumrall, *Associate Professor of Mathematics*—B.A., Mississippi State College for Women; M.A., George Peabody College. (1955)

John Sutter, *Assistant Professor of Chemistry*—A.B., Washington State University; M.S., Ph.D., Tulane University. (1960)

Robert Orren Sutton, *Associate Professor of Mathematics*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1943)

Bobby E. Tabarlet, *Associate Professor of Education*—B.S., Southwestern Louisiana Institute; M.A., Ph.D., Louisiana State University. (1958)

James S. Tarbutton, *Associate Professor of Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. Registered P.E., Louisiana. (1954)

Alfred E. Tellinghuisen, *Assistant Professor of Music*—B.M. Ed., North Central College; M.M., American Conservatory of Music. (1954)

W. B. Temple, *Professor of Mathematics*—B.A., Louisiana College M.A., Louisiana State University; Ph.D., University of Texas. (1948)

Kathleen DeCou Thain, *Associate Professor of French*—B.A., Baylor University; M.A., University of Texas. (1936)

Arthur C. Thigpen, *Professor of Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Oklahoma A. and M. College; Registered P.E., Louisiana. (1947)

J. J. Thigpen, *Professor of Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; B.S., U. S. Military Academy; M.S., Ph.D., University of Texas; Registered P.E., Louisiana. (1947)

William Y. Thompson, *Associate Professor of History*—B.A., University of Alabama; M.A., Emory University; Ph.D., University of North Carolina. (1955)

Jack N. Thornhill, *Assistant Professor of Economics*—A.B., Wittenberg University; M.Litt., University of Pittsburgh; Ph.D., Louisiana State University. (1960)

Glenn Tilley, *Instructor, Athletic Trainer*—B.S., Centenary College. (1953)

Minnie B. Tracey, *Professor of Marketing*—A.B., University of Michigan; M.S.C., University of Denver; Ph.D., Ohio State University. (1951)

Grover J. Trammell, *Professor of Mechanical Engineering*—B.S., M.S., Tulane University; Registered P.E., Louisiana. (1957)

John C. Trisler, *Assistant Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; Ph.D., Texas Technological College. (1959)

Robert O. Trout, *Professor of Geography and Sociology*—B.A., Louisiana Polytechnic Institute; M.A., Ph.D., Louisiana State University. (1947)

Murrie Lee C. Turnbow, *Supervisor, Secondary Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1955)

Mildred F. Walker, *Professor of English*—B.A., Cornell College; M.A., Columbia University. (1929)

Philip A. Walker, *Associate Professor of History*—B.A., University of North Carolina; M.A., Emory University; Ph.D., University of North Carolina. (1958)

Mary Elaine Wallace, *Associate Professor of Music*—B.F.A., Nebraska State Teachers College; M.S., University of Illinois. (1954)

Herbert Warren, *Instructor of Petroleum and Geological Engineering* (Part-time)—B.S., Louisiana Polytechnic Institute. (1961)

M. Margaret Warren, *Assistant Professor of Education*—B.A., Ouachita College; M.A., Louisiana State University. (1961)

Otto Wasmer, Jr., *Professor of Botany*—B.S., University of Arkansas; M.A., George Peabody College; Ph.D., University of Nebraska. (1953)

Scott M. Weathersby, *Professor of Zoology*—B.A., Louisiana College; M.S., Louisiana State University. (1938)

Mary Ann Welsh, *Assistant Professor, Library Science*—B.S., Mississippi State College for Women; M.L.S., University of Mississippi. (1957)

Theodore L. Whitesel, *Associate Professor of Finance and Economics*—B.Ed., Eastern Illinois University; B.S., M.S., Ph.D., University of Illinois. (1958)

A. Huey Williamson, *Associate Professor of Physical Education, Assistant Football Coach*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1946)

Charles W. Wilson, *Assistant Professor of Agricultural Engineering*—B.S., Clemson Agricultural College; M.S., University of Georgia. (1956)

John B. Wilson, *Professor of English*—A.B., Ouachita College; M.A., University of South Carolina; Ph.D., University of North Carolina. (1954)

Frances L. Winters, *Assistant Professor, Library Science*—A.B., Hendrix College; B.S. (L.S.), Louisiana State University. (1948-1953) (1954)

John D. Winters, *Professor of History*—B.A., M.A., Louisiana State University. (1948)

Clifford T. Woodard, *Professor of Education*—B.A., Louisiana Polytechnic Institute; M.A., George Peabody College. (1947)

Ralph L. Wooldridge, *Associate Professor of Education*—B.S., M.A., Baylor University. (1955)

John A. Wright, *Professor of Horticulture*—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Louisiana State University. (1953)

Edna Yarbrough, *Associate Professor of Physical Education*—B.S., M.A., Texas State College for Women. (1946)

James H. Zeagler, *Assistant Professor of Forestry*—B.S., Louisiana Polytechnic Institute; M.F., Louisiana State University. (1961)

## ADMINISTRATIVE ASSISTANTS

Cleo Alexander, B.A., (1944) ..... *Assistant in charge of Film Service, Department of Placement and Services*

Bettye M. Ball, B.S., (1961) ..... *Recording and Data Processing Assistant*

Max Bledsoe, TSgt. USAF (1958) ..... *Training NCO AFROTC*

Alexander Boyd (1954) ..... *Manager, Bookstore*

Bessie Boyd (1960) ..... *Nurse, Student Infirmary*

Jimmy F. Boyd, B.S. (1958) ..... *Supervisor, Tabulating Service*

George W. Byrnside, B.S. (1960) ..... *Assistant Business Manager*

Lucy L. Chumley, M.A., (1961) ..... *Library Assistant*

Cornelia Cooper (1957) ..... *Supervisor of Housekeeping, Adams and Aswell Halls*

Amos A. Dick (1960)—*Storekeeper, Department of Chemisty*

Thomas M. Duhon, A/1C, USAF (1960) ..... *Personnel-Administrative Clerk, AFROTC*

Lillian H. Ellis, B.S., (1959) ..... *Dietitian, Student Center*

Elijah S. Foster, Jr., B.S., (1960) ..... *Assistant to the Dean of Men*

Pearl C. Foster (1954) ..... *Housemother, Men's Dormitory*

Lessie S. Fowler, B.A. (1959) ..... *Library Assistant*

Prentiss A. Frasier (1956) ..... *Security Officer*

Marie A. Gaudin (1950) ..... *Assistant Dietitian*

Nelda B. Germany, B.A. (1959) ..... *Assistant Guidance Counselor*

Bessie Gillenwater (1954) ..... *Nurse, Student Infirmary*

Lucile Hardaway (1950) ..... *Head Resident, Dudley Hall*

Laura T. Hearn, B.S. (1959) ..... *Library Assistant*

Berry Hinton, M.S. (1943) ..... *Assistant Dean of Men*

Casciel F. Hogan (1953) ..... *Dietitian, Elementary School*

Ella Rae Hollis, R.N. (1961) ..... *Head Nurse, Student Infirmary*

John D. Hoogland (1944) ..... *Farm Supervisor*

Anne S. Hughes, B.S., (1959) ..... *Supervisor, Secretarial Practice and Editorial Assistant*

Douglas Jenkins, B.S. (1937) ..... *Assistant Auditor*

Mary Lou Ledbetter, M.A. (1955) ..... *Asst. in Charge of Records, Department of Placement and Services*

Ezra A. Liner (1957) ..... *Superintendent of Laundry*

Tot McLean (1959) ..... *Head Resident, Harper Hall*
Emma C. McCormack (1953) ..... *Supervisor of Housekeeping, Harper Hall and Harper Annex*
M. E. McFadden (1955) ..... *Security Officer*
Ruby McFadden, B.S., (1946) ..... *Assistant Dietitian*
L. P. McLane, M.A. (1934) ..... *Director of Student Health Service*
Clifford Meek, B.S. (1959) ..... *Director, Student Center*
Loraine L. Mitchell (1955) ..... *Housemother, Men's Dormitory*
Gladys B. Moore (1961) ..... *Attendance Officer*
Norma C. Murphy (1958) ..... *Library Assistant*
Albert John Passon (1957) ..... *Assistant Printer*
Nannie Penny (1957) ..... *Head Resident, Aswell Hall*
Julia M. Perkins, B.A. (1961) ..... *Library Assistant*
Hazel H. Ragsdale (1957) ..... *Library Assistant*
Louise H. Riser (1953) ..... *Assistant Dietitian*
Eleanor S. Rockett, B.S. (1959) ..... *Assistant Registrar*
Alma Roth (1958) ..... *Head Resident, Pearce Hall*
Gerald D. Sanderson (1955) ..... *AFROTC Institutional Property Custodian*
Arthur B. Sherbourn, S-Sgt., USAF (1958) ..... *Cadet Records Clerk, AFROTC*
Kathleen M. Simmons (1955) ..... *Counselor to Drive-in Women Students*
Climmon W. Speights (1960) ..... *Campus Security Officer*
Lucille C. Talley (1954) ..... *Housemother, Men's Dormitory*
Peggy E. Taylor (1953) ..... *Assistant Dietitian*
Nettie J. Thornton (1955) ..... *Assistant Dean of Women and Head Resident, Adams Hall*
Thera Waldron (1958) ..... *Supervisor of Housekeeping Pearce and Dudley Halls*
Erie L. Walker, TSgt., USAF (1960) ..... *Sergeant Major, AFROTC*
Loyd P. Walker (1957) ..... *Assistant Printer*
Elizabeth White, M.A. (1956-58) (1961) ..... *Head Resident, Harper Annex*

## SECRETARIAL-CLERICAL STAFF

Montez Anderson (1959) ..... *Stenographer-Clerk, Guidance Counselor's Office*

Jackie Ashley (1961) ..... *Typist-Clerk, Department of Placement and Service*

Ida B. Benson (1957) ..... *Stenographer-Clerk School of Agriculture and Forestry*

Lois G. Byrd, B.A. (1956) ..... *Clerk, Registrar's Office*

Louise C. Covington (1960) ..... *Typist-Clerk, Library*

Octava S. Delony, A.B. (1958) ..... *Adviser, Counselor, and Assistant Director of Records, School of Engineering*

Mildred M. Dickson, B.S., (1959) ..... *Buyer, Business Manager's Office*

J. E. Edwards (1940) ..... *Stock Clerk, Buildings and Grounds Department*

Virginia S. Ford (1959) ..... *Clerk, Duplicating Services*

Marjorie L. Forrester, B.S. (1961) ..... *Typist-Clerk, Bookstore*

Elizabeth A. Gray (1958) ..... *Stenographer-Clerk, Arts and Sciences Administration*

Mary A. Gray (1961) ..... *Stenographer-Clerk Dean of Men's Office*

Louisa G. Guthrie (1961) ..... *Key Punch Operator, Registrar's Office*

Annette M. Hinton (1961) ..... *Typist-Clerk Business Manager's Office*

Ila Fay Hood (1955) ..... *Clerk, Auditor's Office*

Dorothy G. Hoogland, B.S. (1958) ..... *Clerk, Registrar's Office*

Ennis L. Hyatt (1946) ..... *Clerk, Laundry*

Edith D. Kavanaugh, B.A. (1960) ..... *Typist-Clerk, Auditor's Office*

Patricia Keeton (1961) ..... *Stenographer-Clerk Student Center*

Janis J. King (1960) ..... *Stenographer-Clerk Special Education Department*

Myrtle N. King (1958) ..... *Assistant Manager, Bookstore*

Wilma Lann, B.S. (1949) ..... *Stenographer-Clerk, Dean of Women's Office*

Geraldine M. Lawrence (1960) ..... *Stenographer-Clerk, Business Manager's Office*

Lucille Lewis, B.S. (1943) ..... *Clerk, Buildings and Grounds Department*

Marie W. Lewis (1960) ..... *Stenographer-Clerk, Student Employment Office*

Jeannette S. Logan (1958) ..... *Stenographer-Clerk, School of Education*

Alice V. Merriott, B.S. (1958) ..... *Stenographer-Clerk, A. E. Phillips Elementary School*

## SECRETARIAL-CLERICAL STAFF (CONTINUED)

Mary D. McClellan (1961) ..... *Switchboard Operator*
Emogene A. McLaughlin (1957) ..... *Stenographer-Clerk, Athletic Office*
Billie Jean Meek, B.S. (1958) ..... *Account-Clerk, Auditor's Office*
Pearl H. Meek (1960) ..... *Cashier, Student Center*
Jeanette Mills (1960) ..... *Stenographer-Clerk, School of Engineering*
Gladys North (1959) ..... *Stenographer-Clerk, Special Education Department*
Nancy B. Priddy (1960) ..... *Typist-Clerk, Dining Hall*
Nannie Rasbery (1956) ..... *Account-Clerk, Auditor's Office*
Linda D. Reneau (1961) ..... *Stenographer-Clerk, Music Department*
Gwendolyn W. Riser (1961) ..... *Stenographer-Clerk, Registrar's Office*
Peggy R. Robertson (1960) ..... *Stenographer-Clerk, School of Engineering*
Barbara G. Rudd (1958) ..... *Stenographer-Clerk Forestry Department*
Gloria B. Shelby, M.B.A., (1958) ..... *Secretary to the Dean and Records Clerk, School of Business Administration*
Alice F. Shepherd (1961) ..... *Typist-Clerk, Business Manager's Office*
Rachael R. Smith, B.S. (1959) ..... *Counselor, Records Accountant, and Secretary to the Dean, School of Arts and Sciences*
Laura M. Spearman (1960) ..... *Typist-Clerk Registrar's Office*
Barbara A. Stagg, B.S. (1961) ..... *Stenographer-Clerk, School of Engineering*
Elizabeth W. Stevens (1958) ..... *Stenographer-Clerk, Department of Placement and Service*
Barbara S. Stonecipher (1960) ..... *Stenographer-Clerk, Library*
Lubie Sutton, B.S. (1944) ..... *Accountant, Auditor's Office*
Virginia G. Trout, B.S. (1940) ..... *Secretary to the President*
Annie A. Turner (1960) ..... *Clerk, Student Center*
Dorothy Walker (1961) ..... *Stenographer-Clerk, Dean of Women's Office*
Bette H. Wallace, B.S. (1952) ..... *Stenographer-Clerk, School of Home Economics*
Margie Wilhite (1960) ..... *Typist-Clerk, Auditor's Office*
Mary E. Wylie (1960) ..... *Typist-Clerk, Dean of Men's Office*

# COUNCILS AND COMMITTEES OF THE FACULTY FOR SESSION OF 1961-1962

*(The President is a member, ex-officio, of all committees)*

## COUNCILS

### THE COUNCIL OF DEANS

President Ropp, Chairman; Deans Ben T. Bogard, Martha Condra, M. Hayne Folk, Jr., Alice M. Graham, S. X. Lewis, Burton R. Risinger, John B. Wilson, C. T. Woodard, Registrar Mabel May, Guidance Counselor Hazel Shively.

### THE GRADUATE COUNCIL

Dean John B. Wilson, Chairman; Deans Ben T. Bogard, M. Hayne Folk, Jr. Alice M. Graham, Burton R. Risinger, C. T. Woodard, Registrar Mabel May.

## FACULTY COMMITTEES

ADMISSIONS AND STANDARDS: Mabel May, Chairman; Agnes C. Cofer, Dallas D. Lutes, Charles H. Smith, Howard L. Balsley, John A. Cawthon, Richard M. Steere.

ATHLETICS: H. J. Smolinski, Chairman; Joe Aillet, H. J. Sachs, H. F. Schroeder, J. J. Thigpen, S. M. Weathersby.

ATOMIC ENERGY ADVISORY: A. C. Thigpen, Chairman; Roland Abegg, Paul Bonner, W. W. Chew, LaRue Cocanougher, Agnes C. Cofer, Kenneth R. Grubbs, Winston P. Hackbarth, Henry A. Kallsen, W. H. McLaurin, Virgil Orr, Charles H. Smith, W. B. Temple, J. J. Thigpen.

BUILDING: Ben T. Bogard, Chairman; W. H. McLaurin, H. C. Pyburn, Richard A. Smith, James S. Tarbutton.

CAMPUS BEAUTIFICATION: John Kuprionis, Chairman; Roland Abegg, Merle Burk, J. G. Chumley, Benjamin F. Grafton, Mark R. Harris, Clifton M. Huddleston, Sam Linder, Lowell A. Logan, Fairy C. McBride, J. C. Owen, H. C. Pyburn, C. R. Rostron.

CATALOGUES AND COLLEGE BULLETINS: John B. Wilson, Chairman; F. Elizabeth Bethea, Ben T. Bogard, J. W. Evans, M. Hayne Folk, Jr., Alice M. Graham, Mabel May, Henry R. Mays, Jr., Burton R. Risinger, C. T. Woodard.

COMMENCEMENT: F. O. Adam, Jr., Chairman; Marshall E. Bretz, Edith Cotton, Winnie D. Evans, Willie Fletcher, Mildred Gantt, Hollis C. Hearne, J. T. Johnson, T. W. Ray Johnson, John McDow, Mary Moffett, E. M. Shirley, Hazel Shively, Senior Class Adviser.

COMMUNITY SERVICE BUREAU: W. H. McLaurin, Chairman; Hal B. Barker, H. L. Henry, Burton R. Risinger, A. C. Thigpen, John B. Wilson.

COMPUTER ADVISORY: David L. Johnson, Chairman; Howard L. Balsley, W. L. Bergeron, Willie Fletcher, Mabel May, John J. McDow, Charles H. Smith.

DISCIPLINE: S. X. Lewis, Chairman; W. L. Bergeron, George P. Bonner, Martha Condra, Willie Fletcher, C. G. Hobgood, R. A. Smith, H. J. Smolinski.

FACULTY ADVISER TO STUDENT SENATE: S. M. Weathersby.

FLORAL ARRANGEMENTS: Frances Fletcher, Chairman; A. Z. Butler, Katherine Butler, J. W. Evans, Lubie Sutton, Charles W. Wilson.

GROUP INSURANCE: Burton R. Risinger, Chairman; J. W. Evans, W. H. McLaurin.

LIBRARY: Burton R. Risinger, Chairman; Ben T. Bogard, W. J. Bordelon, M. Hayne Folk, Jr., Alice M. Graham, Kenneth R. Grubbs, H. J. Sachs, E. J. Scheerer, L. E. Storey, W. B. Temple, John B. Wilson, C. T. Woodard.

NATIONAL DEFENSE EDUCATION ACT: W. H. McLaurin, Chairman; Virgil Orr, Co-chairman; Roland Abegg, R. L. Cason, Jr., J. W. Evans, George P. Freeman, Charles H. Smith, W. B. Temple.

NATIONAL SCIENCE FOUNDATION: Virgil Orr, Chairman; Rhesa M. Allen, Jr., Robert Elioff, Donald L. Fernholz, Walter E. Koss, J. C. Trisler, S. M. Weathersby.

ORIENTATION: Hazel Shively, Chairman; Wilbur L. Bergeron, Martha Condra, H. L. Henry, Jr., S. X. Lewis, Ernest J. Russell.

PLACEMENT: Elenora A. Cawthon, Chairman; Ben T. Bogard, M. Hayne Folk, Jr., Alice M. Graham, Burton R. Risinger, John B. Wilson, C. T. Woodard.

PROGRAMS: Paul J. Pennington, Chairman; Elizabeth Bethea, J. A. Cawthon, Paul T. Hendershot, H. L. Henry, Milton R. Johnson, Jr., Dallas D. Lutes, G. W. McGinty, Ruth Richardson, H. J. Sachs, Charles H. Smith, three members of student body; L. V. E. Irvine (Advisory).

RADIO AND TELEVISION: Edward Luck, Chairman; Joe Aillet, Rhesa M. Allen, Jr., Helen Barron, Fred Beckett, L. P. Blackwell, A. Duchein Cazedessus, T. H. Dosher, Paul T. Hendershot, K. F. Hewins, C. G. Hobgood, James W. Malone, Paul J. Pennington, H. J. Sachs, Joe G. Sheppard, two representatives from Student Senate, two representatives from Tech Radio Players.

RALLY: C. T. Woodard, Chairman; F. L. Afeman, Wilma Baugh, Merle Burk, A. Duchein Cazedessus, Cecil Crowley, Odie L. Fitzgerald, John Hay, Ethel H. Kelly, James W. Mize, Robert H. Newell, R. O. Sutton, F. F. Smith, H. J. Smolinski, Alfred E. Tellinghuisen, John B. Wilson.

REGISTRATION: Mabel May, Chairman; Ben T. Bogard, Martha Condra, J. W. Evans, M. Hayne Folk, Jr., Alice M. Graham, Burton R. Risinger, Hazel Shively, John B. Wilson, C. T. Woodard.

RELIGIOUS ACTIVITIES COMMITTEE: E. Carl Jones, Chairman; Edward R. Andrulot, Charles C. Chadbourn, Jr., Willie Fletcher, Lucile P. Folk, Hollis C. Hearne, William R. Higgs, Fairy C. McBride, Oneil J. Richard, J. J. Thigpen, W. Y. Thompson, Ralph L. Wooldridge.

SAFETY: S. X. Lewis, Chairman; Ernest W. Bryant, Martha Condra, C. H. Edwards, M. E. McFadden, W. H. McLaurin, H. C. Pyburn, S. M. Weathersby.

SCHOLASTIC DEFICIENCY: John B. Wilson, Chairman; Ben T. Bogard, M. Hayne Folk, Jr., Alice M. Graham, Mabel May, Burton R. Risinger, Hazel Shively, C. T. Woodard.

SOCIAL: Dean of Women, Chairman; Dean of Men, Assistant Dean of Men, Representative from Interfraternity Council, Representative from Pan-Hellenic Council, Non-Fraternity Senior Woman, Representative of G. I. Students, Non-Fraternity Senior Man.

STUDENT EMPLOYMENT: A. C. Thigpen, Chairman; Lucille W. Campbell, H. E. Ruff, Jr., Johnnie A. Speights, Virginia G. Trout.

STUDENT ORGANIZATIONS: H. E. Ruff, Jr., Chairman; Martha Condra, Donald Fernholz, Frances Fletcher, E. S. Foster, William R. Higgs, S. X. Lewis, Edward Luck, Mary Moffett, Ruth Richardson, Francis C. Roy, Hazel Shively, R. C. Snyder, Minnie B. Tracey, Mildred Walker, S. M. Weathersby, Edna Yarbrough.

STUDENT PUBLICATIONS: K. F. Hewins, Chairman; H. L. Balsley, Harry M. Brown, J. G. Chumley, W. H. McLaurin, Henry R. Mays, Jr., Robert W. Mondy, Bobby Tabarlet, W. Y. Thompson, Huey Williamson.

STUDENT HEALTH: L. P. McLane, Chairman; Martha Condra, George P. Freeman, S. S. Kilgore, S. X. Lewis.

TECH ALUMNI NEWS: W. R. Rives, Chairman; Anne S. Hughes, W. H. McLaurin, J. W. Mize, A. C. Thigpen. Two Alumni and Two Student Representatives.

TEXTBOOKS: Frellsen F. Smith, Chairman; LaRue Cocanougher, Milton R. Johnson, Jr., Dallas D. Lutes, Claudine C. Kennedy, Ruth Richardson.

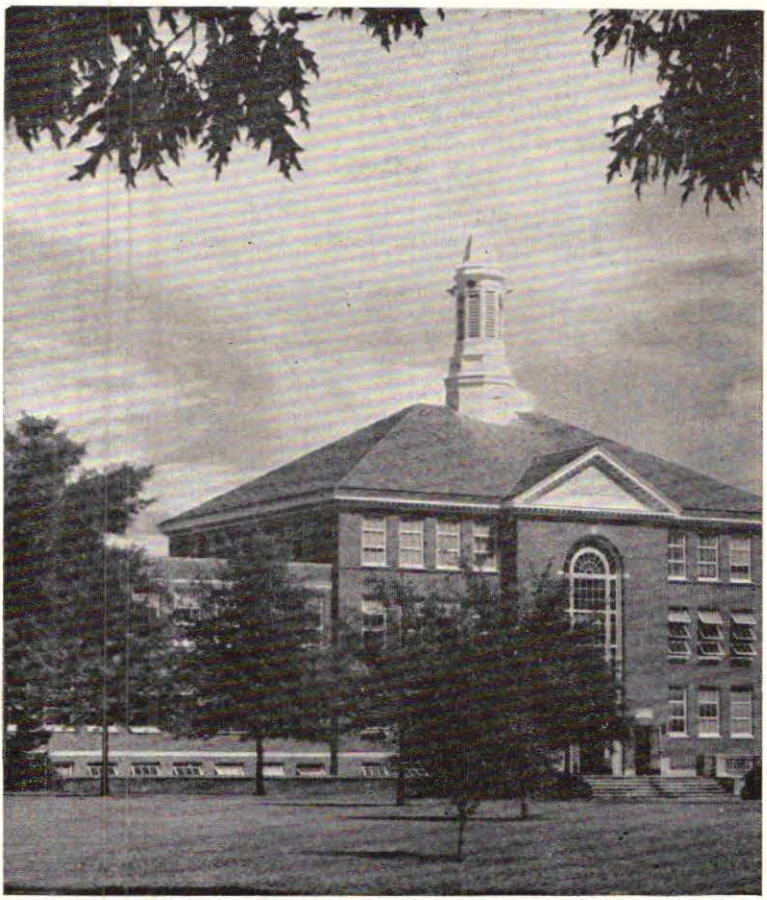
VISUAL EDUCATION: W. N. Crow, Chairman; F. L. Afeman, J. W. Evans, Winnie D. Evans, Cora Hoffpauir, Conrad Ross, C. R. Rostron, Ernest J. Russell, Minnie B. Tracey, Otto Wasmer, Jr.

# *Part II — General Information*

## Physical Plant And Facilities

### LOCATION OF THE COLLEGE

Louisiana Polytechnic Institute, a state-supported senior co-educational institution which concluded its 65th year in 1959-60, was established at Ruston under Act 68 of the General Assembly of Louisiana.



KEENY HALL, ADMINISTRATION BUILDING

The population of Ruston totalled 13,932 in the census of 1960.

Ruston is situated in the central part of northern Louisiana and is located on the new U. S. Interstate 20 Highway, some sections of which already have been opened to traffic. The city also is served by two other paved U.S. highways and by two railroads.

## HISTORY OF THE COLLEGE

The college opened its doors on September 23, 1895, with a physical plant consisting of a two-story brick building with eight classrooms, a large auditorium, a chemical laboratory, a frame building for instruction in mechanics and an administrative building centrally located on 20 acres donated by the town of Ruston.

The first faculty numbered six instructors and the beginning enrollment included 202 students from 22 parishes. The college at present has a full teaching faculty of 236 persons, with more than 70 having doctors' degrees. The enrollment of regular on-campus students has passed 3,700.

## BUILDINGS AND GROUNDS

The grounds of Louisiana Polytechnic Institute today total 689½ acres. This land includes the main campus of 167½ acres and the demonstration farm of 365 acres situated approximately a half mile west of the main campus, all of which is within the city limits of Ruston. In addition, the property includes approximately 157 acres of forest land in Webster Parish, which was deeded to the college by an agency of the Federal government (Surplus Property, Utilization Division, U. S. Department of Health, Education and Welfare).

The college buildings, including the smaller ones, now number approximately sixty. The most recent of these structures to be completed is the new air-conditioned Prescott Library Building. Other recently constructed buildings are the air-conditioned Student Center, two dormitories for men, one dormitory for women and an extension and renovation of the Irene Tolliver Dining Hall.

## THE LIBRARY

With the beginning of the academic year 1961-62 the library will become an open-type facility in a beautiful new building, where students and faculty will have direct access to the books and periodicals. The main reading and study areas are the humanities, science and technology, business and social science, browsing, and documents.

The Prescott Memorial Library has, as of July 1, 1961,

88,727 volumes and receives 884 periodicals and 24 newspapers. The library is a depository for government documents and contains approximately 243,805 federal documents and 39,050 state documents. The reference collection includes all of the standard reference works as well as many books and collections in specialized fields. Reading machines are available for use with the collection of 2,404 microfilm reels and 16,874 microprint cards.

There is also a branch collection, the Forestry Library, which contains 3310 volumes.

A staff of ten professional librarians, four subprofessional librarians, two secretaries, and from 35 to 40 student assistants serves the faculty and student body and administers the library.

Library hours and regulations are set forth in the *"T" Book,* the student handbook.

# Academic Organization and Regulations

## STATEMENT OF OBJECTIVES

From the beginning, the general aim of Louisiana Polytechnic Institute has been to promote vocational and general education among the people of the area served. In time, technical curricula and liberal arts courses were reorganized and consolidated into six schools, each with appropriate aims, but all concerned with increased emphasis upon the original objective for the college—the promotion of liberal education to serve as a base for professional development in the areas of agriculture and forestry, business administration, education, engineering and home economics, as well as in the arts and sciences.

## ORGANIZATION

Louisiana Polytechnic Institute is organized into six schools: the School of Agriculture and Forestry, the School of Arts and Sciences, the School of Business Administration, the School of Education, the School of Engineering, and the School of Home Economics.

## ACCREDITATION

Louisiana Polytechnic Institute is fully accredited by the Southern Association of Colleges and Secondary Schools. This accreditation covers the entire institution, with all of its schools, departments, and curricula. It is also a member of the American Association of Collegiate Registrars and is affiliated with the National Commission on Accrediting. In addition to this general accreditation of the entire institution, certain of its schools and departments are approved by the professional accrediting bodies in their fields. These organizations are as follows: Engineers' Council for Professional Development, the American Association of Colleges for Teacher Education, the Society of American Foresters, the American Association of Collegiate Schools of Business, the American Society of Agricultural Engineers, the American Chemical Society, and the National Association of Schools of Music.

## SESSIONS OF THE COLLEGE

Louisiana Polytechnic Institute has two sessions each year: the *main session* of nine months (in two semesters) beginning in September and ending in June; and the *summer session* of nine weeks, which begins soon after the close of the regular session and ends early in August.

## UNDERGRADUATE DEGREES

Louisiana Polytechnic Institute confers four undergraduate degrees: bachelor of accounting, bachelor of arts, bachelor of science, and bachelor of music. Candidates who have specialized in a vocational or semi-professional subject are awarded a degree in that subject—for example, bachelor of science in engineering, bachelor of science in chemistry, etc. No honorary degrees are conferred.

## GRADUATE DEGREES

By action of the State Board of Education on December 17, 1957, January 31, 1958, and April 3, 1958, Louisiana Polytechnic Institute was authorized to offer the degrees of Master of Science, Master of Arts in Education, and Master of Science in Education. On April 17, 1961, the Board authorized an extension of this graduate program to include the following fields: Art education, music education, speech education, physical education, and home economics education. These graduate curricula are now being offered:

*Degree of Master of Science:* agricultural engineering, botany, bacteriology, chemistry, chemical engineering, civil engineering, electrical engineering, mechanical engineering, petroleum and geological engineering, geology, home economics education, mathematics, physics, and zoology.

*Degree of Master of Arts in Education:* art education, elementary education, English education, music education, social science education, speech education.

*Degree of Master of Science in Education:* biology education, business education, chemistry education, mathematics education, physics education, physical education.

## COURSES OF INSTRUCTION

Courses in the following subjects are offered by the College: agricultural engineering, agronomy, animal husbandry, bacteriology, botany, dairying, forestry, horticulture, poultry husbandry, and veterinary science, (given in the School of Agriculture and Forestry); art, chemistry, English, French, geography, German, history, journalism, mathematics, music, philosophy, physics, political science, sociology, Spanish, speech, zoology (given in the School of Arts and Sciences); accounting, business machines, business writing, business law, business statistics, economics, finance, insurance, marketing, management, real estate and secretarial science (given in the School of Business Administration); education, health and physical education, library science, psychology (given in the School of Education); air science given by Air

R.O.T.C.; chemical, civil, electrical, mechanical, industrial, petroleum engineering, and geology (given in the School of Engineering); foods, clothing, child development, and institutional management (given in the School of Home Economics).

No course, either for credit or not for credit, may be offered on the campus of Louisiana Polytechnic Institute unless it is approved by the Council of Deans and taught by a regular member of the college faculty.

## PROVISIONS FOR VETERANS' EDUCATION

(After Korea)

*Eligibility.* To be eligible, a Veteran must be out of active service and must meet all these requirements: (1) He must have been discharged under conditions other than dishonorable, (2) he must have had active military duty sometime between June 27, 1950, and Jan. 31, 1955, and (3) he must have had at least 90 days total service, unless discharged sooner for an actual service-incurred disability.

*Length of Training.* Entitlement is limited to one and one-half days of education or training for each day spent in service on and after June 27, 1950, and prior to the end of the emergency period. The maximum is 36 months.

*Deadline.* The veteran must actually commence the pursuit of the approved program of education or training not later than his delimiting date.

*Education and Training Allowances.* A veteran in training may receive an education and training allowance each month from the Government to cover part of his training expenses and living cost. Rates for veterans in full time training in schools and colleges are $110 a month, if they have no dependents; $135 if they have one dependent, and $160 if they have more than one dependent.

Tuition, fees, books, supplies and equipment expenses will all have to come out of the monthly allowances; the Government will not pay for them separately.

*Certification.* To obtain certification for educational training, the Veteran should obtain VA Form 7-1990 and file it with the regional office in his area or state. The Veterans Administration will then determine the Veteran's eligibility and the number of years of schooling to which he is entitled. The certification will be returned to the veteran, who in turn presents it to the Coordinator of Veterans' Affairs (Dean of Men) at Tech during registration.

## GENERAL ADMISSION REQUIREMENTS

### HIGH SCHOOL REQUIREMENTS

An applicant for admission to the freshman class must have been graduated with not fewer than fifteen acceptable units from a four-year course in an accredited secondary school.

The applicant should send to the office of the registrar, at least two weeks before the semester opens, the completed application forms, which may be secured from the registrar, and a transcript of his high school credits.

In accordance with Act No. 15, passed by the 1956 state legislature, each applicant for enrollment in Louisiana Polytechnic Institute shall be required to file with the registrar of the institution a certificate attesting to his or her eligibility and good moral character, signed by the Superintendent of Education of the parish, county, or municipality where the applicant was graduated from high school and the principal of the high school from which he or she was graduated.

Applicants for admission may secure certificates for admission under this act from the registrar of Louisiana Polytechnic Institute.

For *unconditional entrance* to any of the curricula, the applicant for admission must present as a part of his high school credit the specific units indicated for admission to his curriculum.

A period termed "Freshman Week" is set aside at the beginning of the year for the purpose of acquainting freshmen with the college and getting them registered properly. All freshmen must attend the meetings during this period.

### COLLEGE ABILITIES TEST

The College Abilities Test is required of all new students-freshmen and transfers. Each new student will be notified as to when and where to report for the test.

If a student is unable to take the test at the scheduled time, a make-up test will be scheduled and the student notified. If his reason for missing the first test is an authorized one, he will be given the test at the first make-up at no cost; otherwise, the fee will be one dollar ($1.00). Any student failing to take this test will be placed on the delinquent list until the test is taken.

A student on the delinquent list must take the test and pay a fee of five dollars ($5.00) before he will again be allowed to register.

## SPECIAL STUDENTS

All students are classified as special or regular students. Special students are of two classes: (1) those who can meet the admission requirements, but who, for some reason, are not able to take the minimum regular load of 12 hours, and (2) mature students (at least 21 years) who cannot meet the entrance requirements. Any special student, under any condition, must have the approval of the dean of the school in which he registers. No special student may qualify as a candidate for a degree until he has satisfied the entrance requirements of the curriculum in which he is registered.

By authorization of the State Board of Education on December 18, 1951, Louisiana Polytechnic Institute was permitted to offer evening and special classes for in-service students, the fee for such courses being set at $5 a semester hour. No other fees will be assessed or permitted other than an applicable out-of-state fee or graduation fee.

A student who wishes to transfer to Louisiana Polytechnic Institute from another college or university will be eligible for admission if he is eligible for readmission to the institution or institutions previously attended and if his academic record meets the standards required of a student of the same classification at Louisiana Polytechnic Institute.

A student transferring from another college should file with the Registrar, at least two weeks before the semester opens, a certificate of eligibility for application, the complete application forms, and a transcript of all previous college work.

A student who presents a transcript of credit from another college will be permitted to register for such courses as he seems to be prepared to take, and the student's transcript of credit will be evaluated in terms of the curriculum of his choice. The dean of the school the transfer student enters will determine the number of semester hours accepted as applicable toward graduation in a given curriculum and will determine the conditions under which they may be accepted. See also the regulations on transfer students in the various schools.

No student under suspension for scholastic reasons may obtain credit toward a degree on courses pursued at another institution during the period when he is ineligible to register in an institution under the jurisdiction of the State Board of Education.

A transfer student from a non-accredited institution*

*A non-accredited institution is defined as follows: A non-accredited institution is an institution of higher learning not accredited by the Louisiana State Board of Education or by a Regional Accrediting Association.

equivalent. However, the "D" grades will be entered and counted in the computation of the overall average of "C" required for graduation.

The maximum number of hours transferable from a junior college is 68 hours. No credit from a junior college will be accepted toward a degree after the student has attained junior standing.
will not be allowed credit toward graduation on any course which he passed with the lowest passing grade, "D" or the

## REGISTRATION

Students are required to register on days announced for registration in the college calendar.

The privilege of registering is withheld from all students who have not registered on the sixth working day after the last regular registration day of each semester. A late registration fee of $1.00 is charged for registration after classes have begun.

In registering students the heads of departments act as advisers and try to avoid errors; but the student himself is expected to know that graduation is attained through the completion of curriculum requirements as set down in the catalogue. He should know his curriculum and register according to its requirements.

### COURSE NUMBERS

In general, freshman courses are numbered in the 400 series, sophomore courses in the 500 series, junior-senior courses in the 600-700 series, and graduate courses in the 700-800 series. In some cases courses in the 500 series are accepted for junior-senior credit and courses in the 600 series for graduate credit.

In cases where there is a specified prerequisite of a junior course, or when the course is open to seniors only, or seniors and graduate students, the numbers should be in the 700 series.

The unit of work is the semester hour. The credit assigned to one hour per week of lecture is one semester hour. All laboratory work is estimated on the basis of two or three contact hours for one semester hour of credit.

Most courses carry a credit of three semester hours and meet three times a week for a semester and such courses assume a preparation of two hours of work for each hour of meeting. Certain courses require more or less work than the amount named above and accordingly carry more or less credit. The credit for each course is indicated in the description of the course by three numerals, as 0-3-3: first

number indicates laboratory hours per week; second, lecture hours per week; third, credit in semester hours.

### CLASSIFICATION OF STUDENTS

Any student with 30 semester hours is classified as a sophomore, any student with 60 semester hours as a junior, any student with 90 semester hours as a senior, except in the case of students whose curricula require more than 130 semester hours. These students will be required to have 100 semester hours to be classified as senior.

### STUDENT LOAD

No regular student may be registered for fewer than 12 hours except in the case of a last semester senior, who may be allowed to carry only the courses required for graduation, and certain other cases approved by the dean of the school in which he is registered.

A normal load for a student per semester is that amount required in his classification in the curriculum in which he is registered. However, in exceptional cases only, a student who is a graduating senior or who has maintained a general average of "B" and who has no grade below "C" for the preceding semester may be permitted to carry a maximum of 21 hours. Correspondence work taken during the time a student is registered will be counted as part of his load.

The maximum number of hours which may be pursued for credit in one nine months session is 41. The maximum number of hours which may be pursued for credit in one twelve months period is 41 hours for regular session plus one hour for each week of summer school attended and three hours for each five-week period to be taken by correspondence out of residence. However, should a student pursue 40 hours or fewer during the regular session, he may pursue one extra semester hour during the following summer term; and should he pursue 39 semester hours or less during the regular session, he may pursue two extra semester hours during the summer term provided he is a graduating senior or has maintained the scholastic average given above in this paragraph.

In all cases where a student desires to schedule in excess of 19 hours (21 for Engineering and 20 for Music Education students) during a semester or in excess of nine hours during a summer term or wants to take a course by correspondence, he must receive the approval of his dean in writing.

Students are to be held responsible for abiding by these regulations. Should a student take an excessive yearly load or an excessive semester or term load without approval

and this error is discovered even after the semester, term, or year is ended and the student has a passing grade in all work taken, a course will be selected by the student's dean and the registrar, the passing grade will be eliminated, and a "W" recorded in its place.

Drive-in students and those engaged in part-time employment should generally schedule not more than 15 semester hours.

### EVENING AND SPECIAL CLASSES

By authorization of the State Board of Education on December 18, 1951, Louisiana Polytechnic Institute was permitted to offer evening and special classes for in-service students, the fee for such courses being set at $5 a semester hour. No other fees will be assessed or permitted other than an applicable out-of-state fee or graduation fee.

### AUDITING COURSES

In order to be permitted to audit a course, the applicant must be eligible to enter the College either as a regular student or as a special student. A student auditing one or more classes will be charged the general registration fee of $20. This fee is not refundable.

An auditing student will not be required to do any of the work that is required of regular students in the course, nor will he be allowed to receive any credit for the course which he audits. A student may change a course from audit to credit within the first six weeks but not later than this period. A regular student will be permitted to audit a course only when his schedule of regular work affords the time for it.

### REPEATING COURSES

A student may, with the consent of the head of his department, repeat a course in which he has a passing grade.

### ADDING AND DROPPING COURSES

After the first registration for a semester a student may add a course only with the approval of the dean of his school and the head of the department.

No course may be added after the sixth working day of the semester except for forensics, band, choir, glee club, and orchestra, which courses may be added during the first six weeks.

A student may drop a course with the consent of the head of his department, the dean of his school, and the Registrar.

A student may be dropped from a class, more than one

class, or the rolls of the college if his academic dean considers such action to be in the interest of the class or the institution, and, in such case, the dean will decide whether the student is to be given a "W" or an "F".

A student who drops a course after the first nine weeks of any semester or four and one-half weeks of a summer session will receive, in that course, the grade of W plus his grade average at the time he drops the course. This grade will be recorded on the student's record but will be included only in computing the average for probation and suspension at the end of the semester or summer session.

### CHANGE OF SCHOOL

If a student wishes to change from one school to another, he must have the written consent of the deans of both schools and must file this written permission in the Registrar's Office.

### WITHDRAWAL FROM COLLEGE

A student who wishes to withdraw from the college for any reason must make arrangements with the Dean of Men or Dean of Women prior to withdrawal. For men students who are minors a letter of permission for withdrawal is required from the parents or guardians. A letter is required for all women students. The letter of permission in either case must clearly state the reason for withdrawal and must be mailed directly to the appropriate office. A grade of "F" for each course will be entered on the record of any student (not just minors) who leaves without making proper arrangements with the Dean of Men or Dean of Women for withdrawal. A student living in the dormitories or housing for married students who leaves without making proper arrangements for withdrawal will forfeit the unused portion of any payment or deposit made to the college.

## GRADUATION REQUIREMENTS

A candidate for a degree must accomplish the following:

1. Complete one of the curricula of the six schools.

2. Make a C average on hours earned; a transfer student must also make a C average on all hours earned at Louisiana Polytechnic Institute. (Any required course in which a student has received an F in his senior year must be repeated in residence at Louisiana Polytechnic Institute before the student is eligible for a degree, and no student will be allowed to graduate with a grade of F in any course in his final semester of work).

3. If a transfer student, have not less than 36 weeks

residence during which time he has earned at least 30 semester hours and 60 quality points.

4. Spend his senior year in residence, except that a student who has fulfilled the minimum residence requirements may be permitted to earn nine of the last 36 semester hours out of residence.

5. Report his candidacy to his dean and the registrar during the second semester of his junior year.

6. Have been registered as a regular student for a semester or a summer session within three years of the time that the degree is to be granted.

7. Must have completed ¾ of the number of hours required for graduation in residence (extension and correspondence courses may total only ¼ of the number of hours required for graduation). No more than nine hours by extension and/or correspondence may be earned in one calendar year.

8. Must be present for commencement. If a candidate absents himself from the commencement exercise without the approval of the president of the college, he will be assessed an absentee fee of $5 and his diploma will be withheld for a period of one calendar year.

9. Must be registered in Louisiana Polytechnic Institute.

10. All Seniors are required to register in the Placement Office during the first semester of the senior year and are encouraged to furnish 12 application photographs to be used by the Placement Office.

11. A student who wishes to earn a second degree at Louisiana Polytechnic Institute must take at least 30 semester hours in addition to the number required to earn the first degree.

12. By order of the State Board of Education, each student receiving the bachelor's degree at Louisiana Polytechnic Institute must have taken for credit General Studies 601: *Americanism vs. Communism.*

## EXAMINATIONS

Examinations include *regular* and *special* examinations. *Regular examinations* are held at the end of each semester.

Special examinations, including postponed examinations, must be taken not later than the first six weeks after the student re-enrolls the following semester. If the student does not re-enroll the following semester, he may take the examination any time during that semester. If the student does not

take the examination during the period specified above, he will automatically receive the grade of F in the course.

Permission to take any of these examinations must be obtained through the registrar's office.

A candidate for graduation who fails to pass the final examination in only one course in his last semester's work may be permitted to take a deficiency examination in this course. In the event that he fails the deficiency examination, he must repeat the course.

No student may take any final examination prior to the regularly scheduled time for such a test, unless the instructor receives from the Council of Deans permission to give an early examination to the entire class. Such permission will be granted only in cases of extreme emergency.

This regulation does not apply to graduating seniors or to classes whose membership consists largely of graduating seniors (50% or more). Special procedures apply in such cases.

Any student violating this regulation may be denied credit by the Council of Deans when such a violation is reported to college authorities.

## CREDIT EXAMINATIONS

Credit examinations will be given at Tech only under exceptional circumstances and only in subjects requiring skills. Each credit examination must be approved in advance by the head of the department and the dean of the school in which the course concerned is given and also by the dean of the school in which the student is registered, and must be taken before any advanced work in that field is taken. Credit by examination may not exceed ten semester hours. The examination must be taken within one calendar year after entrance or re-entrance into Tech, or upon transferring from one school to another while enrolled at Tech. Re-entrance will be defined as registering at Tech after a lapse of one calendar year since the student's last enrollment. No credit will be given if the student is being examined on work for which he has presented high school credits necessary for entrance into Tech.

For all students who score sufficiently high grades on the mathematics entrance test, college credit may be granted not to exceed six semester hours. This credit may be given only for Mathematics 401 (Algebra) or Mathematics 402 (Trigonometry) or both, according to the student's scores on the individual section of the test.

## SYSTEM OF GRADING

The grade marks are divided as follows:

A: The grade of A is given for the highest degree of excellence that it is reasonable to expect of students of exceptional ability and application.

B: The grade of B is given for a superior quality of work but not of as high a quality as should be expected of students of exceptional ability.

C: The grade of C is given for average work to be expected from classes in general.

D: The grade of D is given for a quality of work that is the minimum requirement for receiving credit for the course.

E. A grade of E is given when a student who has done satisfactory work is absent from a final examination. The student's grade average except for the examination will also be given. This tentative grade will be used in determining the student's scholastic status until the final grade has been determined. To remove the E and receive credit, a student must comply with the special examination regulations given above.

F: The grade of F is given to denote failure and to indicate that the work must be repeated before credit will be given.

I: The grade of I is used to denote failure to complete assigned class work because of conditions beyond the student's control. The student's grade average except for the work missed will also be given. If an I grade has not been removed by the end of the following semester, a grade of F will be recorded. The grade of I is given only upon recommendation of the instructor and the approval of the dean of the school in which the course is offered. If a student's grade average except for the work missed is an F, he will be given an F for the course and not be given an I grade.

W: The grade of W is given when a student withdraws from a class after the final date for registration has passed and before the end of the first 9 weeks of a semester or the first 4½ weeks of a summer term. The grade of W is not included in computing the student's average.

Where courses carry both lecture and laboratory work, separate grades may not be given for the two parts unless they are described separately and carry different course numbers.

If a student resigns during the first nine weeks of a regular session or four and one-half week of a summer session, no record of his class standing will be made. If he resigns after the first nine weeks of a regular session or four and one-half weeks of a summer session, his instructors will submit grades of W plus the student's grade average at the

time of resignation, to the registrar at the end of the semester. These grades will be recorded on the student's permanent record, but will be included only in the computation of the average for probation and suspension at the end of that semester. These regulations apply also to students who are suspended during the semester. See "Class Attendance" for a special regulation for students suspended for excessive absences.

### GRADE REPORTS

Grade reports of students each semester are sent to parents and guardians by the registrar.

When a student is not doing satisfactory work at mid-term, his instructors report his deficiencies to the Dean of Men or the Dean of Women. If a freshman is deficient in more than *one* subject, the dean reports his deficiencies to his parent or guardian.

### TRANSCRIPT OF RECORDS

A transcript of the work a student has completed in Louisiana Polytechnic Institute will be furnished by the registrar upon request, provided he is not indebted to any department of the college. One transcript is issued without charge; for each additional one a fee of $1.00 is charged. No transcripts are issued during the first ten days of either semester, or the first week of the summer session.

## QUALITY POINTS

The quality of work is indicated by quality points. Quality points are assigned to the various grades for each semester hour on the following basis:

| GRADE | QUALITY POINTS |
|---|---|
| A | 4 (per semester hr.) |
| B | 3 (per semester hr.) |
| C | 2 (per semester hr.) |
| D | 1 (per semester hr.) |
| F | 0 (per semester hr.) |

A student may, with the consent of the head of his department, repeat a course in which he has a passing grade.

See "Graduation Requirements" and "Scholastic Probation and Suspension" for an explanation of the manner in which quality points are used in determining averages for graduation and for probation and suspension purposes.

### RATING OF STUDENTS

The rating of any student or any group of students is determined by dividing the number of net quality points by

the number of hours of academic work for which the student or group was registered.

## HONORS

By a system of class, departmental, and general honors, the college gives official recognition of attainments in scholarship. Honors are computed on the basis of hours pursued.

### GENERAL HONORS

A student is graduated with general honors if he has complied with the following requirements:

1. Made an average grade of B for the freshman and sophomore years.
2. Made no grade lower than D during his entire college course.
3. Spent his junior and senior years at Louisiana Polytechnic Institute.
4. Earned in his junior and senior years (that is, the last four semesters or the equivalent, and in no case less than 65 semester hours credit) an average grade of 3.2, cum laude; 3.6, magna cum laude; and 3.9, summa cum laude.

### DEPARTMENTAL HONORS

A student is graduated with departmental honors if he has complied with the following requirements:

1. Earned at least 21 hours in one subject in a department, of which 12 semester hours must be junior-senior courses (those numbered 600 or above).
2. Maintained a 3.5 average in courses in that subject during the junior and senior years (that is, the last four semesters or the equivalent, and in no case less than 65 semester hours).
3. Maintained in all courses during his junior and senior years an average of 2.7 and received in no course during this time a grade below D.

### DEAN'S HONOR LIST

At the end of the semester the dean of each school gives to the college press a list of the students in his school who have carried not less than 15 semester hours approved by the dean, and have made an average of at least B (3.0), with no grade of F. This is known as the Dean's Honor List.

## SCHOLASTIC PROBATION, SUSPENSION, AND READMISSION REGULATIONS

### PROBATION

*Full-Time Students* (Those registered for at least 12 s. h. of work during a regular semester, or at least 6 s. h. of work during a summer session.)

A full-time student will be placed on probation if he does not meet the following minimum requirements.

For each of his first four semesters 9 s. h. with 18 q. p.
After four semesters 12 s. h. with 24 q. p.
For any summer session during his first four semesters 5 s. h. with 10 q. p.
For any summer session after his first four semesters 6 s. h. with 12 q. p.

A full-time student will be removed from probation as follows:

1. A second-semester student if he earns nine semester hours of credit and eighteen quality points during the semester, or five semester hours and ten quality points during the summer session.
2. A third-or fourth-semester student if he earns twelve semester hours of credit and twenty-four quality points during the semester, or six semester hours and twelve quality points during the summer session.
3. A student in his fifth or subsequent semester if he earns a "C" average (2.0) on all work pursued during the semester or summer session.

*Part-Time Students* (Those registered for less than 12 s. h. of work during a regular semester, or less than 6 s. h. of work during a summer session.)

A part-time student will be placed on probation if he does not earn at least an overall average of "C" for any semester or summer session.

A part-time student is removed from probation if he earns an overall "C" average for any semester or summer session.

SUSPENSION

I. *Full-Time Students*

A. Any student who fails to earn at least six semester hours and nine quality points at the end of any semester, or three semester hours and five quality points at the end of a summer session, will be suspended.

B. A second-semester student who is on probation and fails to earn nine semester hours of credit and eighteen quality points during the semester, or five semester hours and ten quality points during the summer session, will be suspended.

C. Any third- or fourth-semester student who has been placed on probation and fails to earn twelve semester hours' credit and twenty-four quality points during the semester, or six semester hours' credit and twelve quality points during the summer session, will be suspended.

D. Any student who is on probation in his fifth or subsequent semester and fails to earn a "C" average (2.0) on all work pursued will be suspended.

E. A student on probation who resigns after nine weeks of a semester have expired, or four and one-half weeks of a summer session, and whose grade-point average is below the minimum standard for his being removed from probation at the end of the semester will be suspended.

II. *Part-Time Students*

Any part-time student who is on probation and has failed to earn a "C" average (2.0) on all work pursued durthe semester or summer session just completed will be suspended.

COURSES TAKEN BY A STUDENT WHO IS UNDER SUSPENSION FOR SCHOLASTIC REASON

No student under suspension for scholastic reasons may obtain credit toward a degree on courses pursued at another institution during the period when he is ineligible to register in an institution under the jurisdiction of the State Board of Education.

READMISSION AND ADMISSION BY TRANSFER

A. Any student suspended for scholastic deficiencies may not re-enroll until the expiration of one regular semester, regardless of the number of times he might have been suspended.

1. When a student who has been suspended for scholastic deficiencies for the first time returns to school, he will be required to earn an overall average of at least 2.0 on all work pursued during the first semester or summer session after returning, in order to avoid being suspended again.

2. When a student who has been suspended for scholastic deficiencies for the second time returns to school, he will be required to earn an overall average of at least 2.5 on all work pursued during the first semester or summer session after returning, in order to avoid being suspended again.

3. When a student who has been suspended for scholastic deficiencies for three or more times returns to school, he will be required to earn an overall average of at least 3.0 on all work pursued during the first semester or summer session after returning, in order to avoid being suspended again.

4. When a student has been suspended for scholastic deficiencies for the fifth time and fails to meet the requirements as stated in paragraph 3, Section A, under "Readmission and Admission by Transfer," the student will be permanently dropped from the rolls of any institution under the control of the Louisiana State Board of Education.

B. A student who is under suspension for scholastic reasons will be on probation when he returns to college.

C. No institution will admit any student while he is under scholastic suspension for a specified period of months from any other institution of higher learning.

D. A student under scholastic suspension for an indefinite period of time from any other institution will not be considered for admission until such interval of time has elapsed had he incurred his suspension at one of the institutions under the control of the State Board of Education.

E. No transfer student will be admitted to an institution under the control of the Louisiana State Board of Education unless his academic record meets the standards required of a student of the same classification in the institution to which he is transferring.

INFORMATION SHOWN ON TRANSCRIPTS FOR STUDENT TRANSFERRING

Any transcript issued for a student on scholastic probation or suspension by any institution under the jurisdiction of the State Board of Education shall show the effective date of such action and length of suspension.

DEFINITION OF A FULL-TIME STUDENT

A full-time student is one who is taking at least twelve semester hours of scheduled work during a semester or at least six semester hours in a summer session.

DEFINITION OF HOURS PURSUED

Hours pursued will be defined as all courses completed and those courses not completed in which the grade of "WF" is received. In the case of a student's repeating a course, the last grade and credits made shall be used in computing the point ratio.

DEFINITION OF A PART-TIME STUDENT

Any student taking less than twelve semester hours in a regular semester or less than six semester hours in a summer session will be a part-time student.

SUMMER SESSIONS EQUATED AS A REGULAR SEMESTER

Any two summer sessions in which a student is enrolled, either full-time or part-time, will be regarded as the equivalent of one semester.

HONOR ROLL

Any regular student who makes a "B" (3.0) average or better in any semester shall be placed on the honor roll for that semester.

QUALITY POINT SYSTEM

Institutions under the jurisdiction of the State Board of

Education shall adopt the quality point allotment of four points for an "A," three points for a "B," two points for a "C," one point for a "D," and 0 points for an "F" therefore, a 2.0 means a "C" average. This policy becomes effective in September, 1961.

APPEAL

These are minimum standards and are to be administered by the appropriate faculty committee in each institution of higher learning under the jurisdiction of the State Board of Education. Appeals must be made to the committee that is going to execute the rules.

## Student Services

### DORMITORY ACCOMMODATIONS

DORMITORY RESERVATIONS

Requests for dormitory reservations should be sent to the Office of the Dean of Men or the Office of the Dean of Women. Reservations will be accepted beginning November 1st for the following spring, summer, or fall sessions (reservations will not be accepted prior to the above date). All women students should send the room deposit fee with their request. Men students will be notified when the room deposit fee is due. This fee is ten dollars. Louisiana Polytechnic Institute assumes no responsibility for lost currency sent through the mail. The room deposit fee of ten dollars will be refunded on request made not later than thirty days before the opening of the semester.

DORMITORIES FOR MEN

Hale, Thatcher, Robinson and South Halls are for freshmen. Barracks No. 3, Cottingham, and Richardson Halls are for sophomores. Jenkins and McFarland Halls are for juniors and seniors.

All students wishing to make reservations must give their classification in order not to cause confusion and possibly lose their room reservation.

Men students living in the dormitories are expected to furnish their linens, bedspreads, cover, pillow, personal toilet articles, etc. A minimum is four single bed sheets, two pillow cases, two bedspreads, 12 towels and bath cloths, and sufficient blankets or cover.

DORMITORIES FOR WOMEN

There are six dormitories for women: Harper Hall, Harper Annex, Aswell Hall, Iva M. Adams Hall, Dudley Hall,

and Pearce Hall. Harper Hall, Harper Annex, and Aswell Hall house freshman women. Pearce Hall houses sophomore women, Dudley Hall houses junior women, and Adams Hall houses senior women.

Each student must bring linen and cover for a single bed, one pillow, a mattress pad, two dresser scarfs, two laundry bags, one study lamp, towels, wash cloths, coat hangers, an iron, a paper basket and eating utensils for "dormitory snacks" (knife, fork, spoon, plate, glass, cup and saucer). Curtains and spreads are more easily selected after consulting roommates.

### MOVING FROM CAMPUS

#### WOMEN

With the following exceptions (1) marrying, (2) moving home with parents, and (3) resigning or being dismissed from school, all women students who move out of the college dormitories at any time other than at the end of a pay period will forfeit credit for seven days of room, board, laundry, and infirmary fee or the remaining fraction thereof.

#### MEN

With the following exceptions, (1) marrying, and (2) resigning or being dismissed from school, all men students who move out of the college dormitories at any time other than at the end of a pay period will forfeit credit for the remaining fraction thereof.

In the event a student has moved out of the dormitory, he will not be permitted to return to the dormitory until the beginning of the following pay period. Likewise, any student who has discontinued eating in the college cafeteria or dining hall will not be permitted to resume eating in either of these places until the beginning of the pay period.

## FINANCIAL AID

### STUDENT EMPLOYMENT

Opportunity is given to a limited number of students to work part-time on the Louisiana Tech campus and thereby help defray their expenses. Only students who maintain satisfactory scholarship are allowed to pursue part-time employment on the campus.

For further information contact the Office of Student Employment, Louisiana Tech, Ruston, Louisiana.

### LOANS

The George O. Thatcher Memorial Loan Fund was established in 1925 by a gift of $200 from Mrs. Ruby B. Pearce. The fund is maintained by the Alumni Association, with a

portion of all membership fees becoming a part of the loan fund. Seniors and juniors with a "C" average are eligible to apply for a loan. Information and application forms may be secured from the Registrar, who is Chairman of the Alumni Loan Committee.

The college participates in the National Defense Student Loan program. Information and application forms may be secured by writing the business manager of the college.

## SCHOLARSHIPS

*Louisiana Polytechnic Institute Scholarships*

A scholarship exempting the student from the payment of registration fees is granted annually by the college to a graduate of each state-approved high school of Louisiana ranking in the highest one-fourth of the class.

Beginning with the 1961-62 session, Louisiana Polytechnic Institute will offer 15 academic scholarships, the monetary value of each being $600 per year.

Scholarship, character, and need will be the bases upon which these scholarships will be awarded. Applicants must be residents of Louisiana and graduates of a Louisiana high school and must not have previously been enrolled in college. They must have maintained not less than a "B" average in high school and must maintain at least a "B" average at Louisiana Polytechnic Institute. Recipients of these academic scholarships must not be recipients of any other state funds.

For further information address correspondence to Chairman, Louisiana Tech Academic Scholarships, Tech Station, Ruston, Louisiana.

The *Louisiana Tech Engineering Scholarship* is a grant of $440 to aid deserving and capable engineering students in securing a technical education.

*Scholarships Granted by Business and Industrial Firms*

The Kellog-Crandall Forestry Scholarship: the amount of $100 to be awarded annually to a student from Ouachita Parish.

The Continental Can Company Forestry Scholarship: the amount of $1000 annually for four years to be awarded to high school graduates in selected counties and parishes of south Arkansas and north Louisiana.

First National Bank of Shreveport: four scholarships of $300 each per year for students in the School of Business Administration or the School of Arts and Sciences who are residents of Caddo, Bossier, DeSoto, Red River, Webster, Claiborne, Bienville, Natchitoches, or Sabine parishes.

The Shreveport *Journal* Journalism Scholarship: one

$300 cash scholarship, renewable for four years, to be awarded to an outstanding high school senior who plans to major in journalism in college.

The Socony Mobil Oil Scholarship: the amount of $400 to be awarded to an outstanding senior in petroleum engineering.

Southwestern Gas and Electric Company Scholarships: the amount of $125 to be awarded to an outstanding senior in electrical engineering whose home is in the service area of the Southwestern Gas and Electric Co., and the amount of $125 to be awarded to an outstanding senior in mechanical engineering, whose home is in the service area of the Southwestern Gas and Electric Company.

The California Company Scholarship: one $450 cash scholarship, plus tuition, fees, and books, to be awarded annually to an outstanding senior in petroleum engineering.

The Universal Oil Products Scholarships: two $250 scholarships to be awarded annually to outstanding seniors in chemical engineering.

*Scholarships Granted by Individuals, Foundations, and Societies*

Louisiana Engineering Society Scholarship: the amount of $100 to be awarded annually to an outstanding senior.

Louisiana Engineering Society (Women's Auxiliary) Scholarship: the amount of $100 to be awarded annually to an outstanding senior from Caddo or Bossier parish.

The R. C. Baker Foundation Scholarships: the amount of $750 to be awarded annually to an outstanding senior in mechanical engineering, and the amount of $750 to be awarded annually to an outstanding senior in petroleum engineering.

The John R. Horton Scholarship: the amount of $100 to provide financial aid to deserving and capable engineering students.

*Graduate Scholarships to Tulane and Louisiana State University*

Graduate scholarships to Tulane University and Louisiana State University are awarded annually to outstanding seniors at Louisiana Polytechnic Institute.

AWARDS AND PRIZES

Home Economics Faculty Award to the graduating student in the School of Home Economics with the highest average; Helen Graham award for the outstanding freshman in the School of Home Economics; Anna Idtse award for the outstanding senior in the School of Home Economics; Delta

Sigma Pi Award in the School of Business; Tau Beta Pi Award in the School of Engineering; Freshman Engineering Awards; Award of the American Society of Civil Engineers; Inter-Fraternity Council Award of scholarship plaque; French Government Award for proficiency in French; Panhellenic Council Scholarship Award; Future Teachers of America Award; Society of Louisiana Certified Public Accountants Award; Pi Kappa Delta Award in Forensics; Sigma Tau Delta Award in creative writing; Tech Foresters Award; Women's Recreation Association Award of an intramural trophy; T-Club Award to the outstanding intramural athlete; Tech Blue Jackets Award to the outstanding pledge; Block and Bridle Club Award of merit trophy; Sigma Gamma Epsilon Award in geology; Alpha Tau Delta Award to the outstanding junior woman; Woman's League Award to the outstanding sophomore woman; Epsilon Gamma chapter of Kappa Sigma award for the most valuable journalism student; American Society of Agricultural Engineers' student honor award.

## GUIDANCE

The office of Student Guidance was established because of the belief that educational institutions are obligated to consider the student as a whole—his intellectual capacity and achievement, his emotional make up, his physical condition, his social relationships, his vocational aptitudes and skills, his moral and religious values, his economic resources, his aesthetic appreciations.

The office provides a diagnostic service to help the student discover his abilities, aptitudes and objectives and assists the student throughout his college residence to choose his courses of instruction in light of his past achievements, vocational and personal interests, and diagnostic findings.

## ORIENTATION

The student's orientation to his educational environment begins with a three-day program at the opening of the fall semester and continues as a one-semester credit course throughout the student's first semester in school. Such a course is required of all first-semester freshmen.

The purpose of the Orientation course is fourfold: first, to acquaint the student with the aims, purposes, organization and regulations of the college; second, to provide an opportunity for gathering information from the freshman which is necessary to guidance; third, to help the student evaluate his own study habits and to learn how he can

develop more effective ones; fourth, to teach the student the basic principles of life adjustment.

## STUDENT ORGANIZATIONS

DEPARTMENTAL

Accounting Club, Business Students Association, Geology Club, Louisiana Tech Marketing Club, Louisiana Tech Choir, Louisiana Tech Engineers Association, Philharmonic Society, Women's Physical Education Majors Club.

GOVERNING

Adams Hall Honor Council, Associated Women Students, Aswell Hall Honor Council, Campus Women's Council, Dudley Hall Honor Council, Harper Hall Honor Council, Pahellenic Council, Pearce Hall Honor Council, Interfraternity Council, Junior Panhellenic Council, Student Senate.

HONORARIES

Alpha Tau Delta, Arnold Air Society, Beta Beta Beta, Kappa Tau Delta, National Collegiate Players, Omicron Delta Kappa, Phi Kappa Phi, Pi Epsilon Tau, Pi Kappa Delta, Pi Sigma Pi, Pi Tau Sigma, Sigma Gamma Epsilon, Sigma Tau Delta, Tau Beta Pi.

PROFESSIONAL

Agronomy Club, American Society of Agricultural Engineers, American Chemical Society, American Institute of Chemical Engineers, American Institute of Electrical Engineers, American Institute of Petroleum Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Beta Alpha Psi, Block and Bridle Club, Chancery Club, Delta Sigma Pi, Forestry Club, Home Economics Club, Sigma Alpha Eta, Society for the Advancement of Management, Society of Industrial Engineers, Student Association of Louisiana Teachers.

RELIGIOUS

Baptist Student Union, Canterbury Club, Newman Club, Wesley Foundation, Westminster Fellowship.

SERVICE

Blue Jackets, Circle K, Student Union, "T" Club, Theta Beta.

SOCIAL

Fraternities (Women)

Alpha Chi Omega, Kappa Delta, Phi Mu, Theta Upsilon, Sigma Kappa.

Fraternities (Men)

Kappa Alpha Order, Kappa Sigma, Lambda Chi Alpha,

Lambda Tau (local), Pi Kappa Alpha, Sigma Nu, Tau Kappa Epsilon, Sigma Phi Epsilon.

SPECIAL INTEREST

Band O'Glee, Biological Society, Freshman Girls Glee Club, Men's Glee Club, Philosophical Society, Radio Club, Rocket Society, Tech Band, Tech Theater Players, Women's Recreation Association.

## STUDENT PUBLICATIONS

The student publications are *The Tech Talk*, the weekly newspaper; *The Lagniappe*, the college annual; *Louisiana Tech Engineer*, quarterly published by the engineering students.

## ATHLETICS AND PHYSICAL TRAINING

All phases of athletics for men are encouraged: football, baseball, basketball, track and cross country, tennis, volleyball, hockey, soccer, golf, touch football, softball, table tennis, horseshoe pitching, and archery. The college has, on the main campus, adequate facilities for conducting these forms of physical training, including a football field, baseball diamond, practice fields, a quarter-mile track with two-hundred-twenty yard straightaway, and tennis courts, as well as separate gymnasiums for men and women in which are conducted physical training exercises, basketball, and other sports, and a third gymnasium, used for physical training and intramural sports.

Intercollegiate contests in the major athletic sports are participated in by men of the college. The college is a member of the Gulf States Conference and the National Collegiate Athletic Association. Over-emphasis, however, is not placed upon representation upon the college teams, and students are urged to engage in other forms of physical training and are required to pursue courses in physical education.

Intercollegiate contests in athletics for women are discouraged. All women students are urged to take part in some form of athletics and are required to take physical education.

Medical examinations at the beginning of the year determine the type of exercise each student takes. Those not able to take part in the major sports are required to engage in minor activities, such as quoits, croquet, and hiking.

All candidates for athletic teams must adhere strictly to the rules and regulations of the Gulf States Conference. The general regulations of the college apply to athletes as well as to other students.

## STUDENT HEALTH SERVICES

Each student entering Louisiana Tech is given a physical examination by the college physicians, assisted by Medical Technology professors and the staff of the Health and Physical Education Department of the college. On the basis of this examination—and subsequent tests if defects are discovered—advisers determine what type of physical education activity the student should take.

Careful efforts are made to exclude from entering college all students with communicable diseases. All registrants, as well as faculty members and other employees, are urged to have annual chest x-rays made by the State Health Department to detect evidence of tuberculosis.

It is an absolute requirement that each student upon registration must show evidence of a successful smallpox vaccination within the previous five years, and it is strongly advised that all prospective students be immunized for typhoid fever and tetanus prior to enrollment.

The college maintains a Student Health Department in the Men's Old Gymnasium on the campus. The College Infirmary, with a total of 56 beds, has separate wards for men and women, with 20 beds in each. Special rooms are provided for those with communicable diseases. The infirmary is under the direction of a registered nurse, with two additional nurses on her staff.

The college is served by the Green Clinic, which has a staff of 15 physicians and dentists. Each morning at 8 a.m., Monday through Friday, a doctor is present to visit patients in the infirmary. In all cases where the illness is thought to be of more than average severity, parents are notified by the nurse in charge.

Health service is available only to those students currently enrolled in the college who have paid the student health fee. To them the Student Health Department gives as complete a diagnosis, treatment, and public health program as possible within the limits of its personnel and equipment. There are no facilities for dental work, surgery, or eye refractions in the Student Health Department; therefore, students are urged to have defects of vision and teeth corrected before coming to college.

During epidemics the facilities of the infirmary may be so overtaxed that the care of all ill students will be impossible. In such emergency, every effort will be made to provide elsewhere for the treatment of students; but the Student Health Department will not assume payment for services rendered by outside physicians or in other hospitals than the college infirmary.

## PLACEMENT AND SERVICE

The duties and responsibilities of the Department of Placement and Service involve activities both on and off the campus. Placement and alumni services are provided in cooperation with the Schools of the College and are intended to supplement and coordinate rather than duplicate the efforts of the academic deans.

Each senior registers with the department so that his record may be completed to serve him now and in the future. The senior provides data on his qualifications and occupational preferences in order that he may be given help in getting the job for which he is best equipped. Evidences of his scholastic achievements and evaluations by faculty members and others are added to his record to complete his confidential, cumulative file.

Graduates returning from service and others wanting to change employment or secure promotions may call on the placement office for services similar to those offered seniors. All graduates are urged to keep in touch with the College so that their mailing addresses are current.

The placement office serves the employer by providing data on graduates, by arranging interviews, and by acquainting students with the job opportunities of the company.

The Department of Placement and Service provides duplicating service for the campus and operates a regional film library of state and government owned films.

## LECTURES AND CONCERTS

As a part of its educational program, Louisiana Polytechnic Institute and the Louisiana Tech Concert Association bring to the campus noted writers, scholars, lecturers and entertainers as well as famous music, dramatic, and ballet organizations. On printed ballots by unanimous vote in the fall of 1944 the student body voted a special assessment on all students beginning with the summer session in 1945 to help underwrite the work of the Louisiana Tech Concert Association.

In an election conducted by the Student Senate in December, 1958, the student body approved increasing the per capita assessment from $2.25 per semester to $2.75, effective September, 1959. Indicative of the cultural interests of Louisiana Tech students is the fact that this vote was 90% in favor of the increase.

The college shares financially in the operation of both the lecture and the concert series. While the convocations at which speakers are presented are held in the morning for

the greater convenience of the student body as a whole, the public is invited to attend. There is no admission charge for these morning convocations.

Because of the nominal amount each student pays as a member of the Louisiana Tech Concert Association, his Identification Card will not be honored if presented by anyone else for admission to an LTCA event. Rules do not permit transferred use of I.D. cards.

However, non-students—faculty, townspeople, and hundreds of other citizens of North Louisiana and Southern Arkansas—can and do participate in this non-profit cultural enterprise—the Louisiana Tech Concert Association.

Non-students may become LTCA members by paying annual dues of $7.10 for non-reserved seats or $10.15 for reserved seats. Junior membership to students of the area under college age are made available at $5.50 for general admission or $8.30 for reserved seat memberships. Annual membership dues are increased $1.00 in all categories after the Annual Membership Drive for those who are not Louisiana Tech students.

## Conduct and Discipline

### DISCIPLINARY PROBATION

(Under the direction of the Dean of Men and Dean of Women.)

The provisions of disciplinary probation are the following:

1. Violation of college regulations during the time of probation will cause the student to be suspended for a period to be determined by the faculty committee on discipline.
2. Initiation into any social or honorary organizations is prohibited.
3. All absence privileges are withdrawn.
4. Candidacy for office is prohibited.

#### CAMPUS PRIVILEGE

A student who has resigned or who has been suspended or expelled must leave the campus within 24 hours after severing his relation with the College.

### OTHER REGULATIONS

#### CAMPUSING

"Campusing" is a measure used by the deans for the sake of discipline. A student who has disregarded regulations may be confined to the campus for a period of time desig-

nated by his or her dean; and may not be permitted to attend extra-curricular functions on the campus, such as ball games or programs given in the auditorium.

If the nature of the offense or infraction of rules seems to demand a heavier punishment, a student may be placed on "strict campus," which means that there will be no social contact other than that necessary for carrying on class work.

If a student has been corrected during a period of "campus," the period will be extended.

### HAZING AND DISORDERLY CONDUCT

No student or group of students will be permitted to haze, use mental or physical violence against, or in any way jeopardize the health, morals, scholastic standing, or well being of another student or students. The unauthorized entrance into the room of other students, or subjecting fellow students to indignities of any character, is a violation of regulations. Mingling with a crowd or following a crowd engaged in hazing will be considered to be participation in hazing. Mingling with a crowd or following a crowd attempting to gain forcible entrance to any room or building will be considered a violation of regulations. Mingling with a crowd or following a crowd engaged in sit-down strikes, demonstrations, picketing, raids, etc., will be considered a violation of regulations. No student or group of students will be permitted to bring discredit upon the institution or upon any member of the faculty or staff.

On entering college, each student is required to subscribe to the following:

**"I PLEDGE MY HONOR TO REFRAIN FROM ANY AND ALL FORMS OF HAZING AND TO RESPECT AND OBEY ALL RULES AND REGULATIONS OF THE FACULTY."**

### DRINKING OR GAMBLING

Possession or drinking of intoxicating liquors (including wine or beer) is forbidden on the campus of Louisiana Polytechnic Institute, or at any college function on or off the campus, or on any school-sponsored trip. Returning to the campus or to a college function with significant signs (detectable by odor or actions) of having drunk any of these beverages is prohibited.

Gambling on the campus of Louisiana Polytechnic Institute is a gross breach of regulations.

The severity of the penalty for drinking, possession, or signs of having drunk intoxicating beverages, or gambling, will be determined by the nature of the case. A second offense against the drinking or gambling regulation is dismissal from college.

### CHEATING

Students are expected to be honest in all their college work. Any student found guilty of cheating will, if it is his *first offense,* be reported in writing by his instructor to the Dean of Men, or the Dean of Women. This report will be filed in the dean's office, and the student will be required to drop the course in which the offense occurred and to receive a failing grade in that course. If such a student is reported again for cheating, the dean will report him to the Discipline Committee. If he is found to be guilty of having cheated a *second time,* he will be indefinitely suspended from the college.

Cheating is defined as dishonesty in class work, such as giving or receiving forbidden aid on written or oral examinations; failure to indicate by quotation marks, footnotes, etc. the source of material used in class papers, or handing in as one's own, papers or other work prepared by another student or other persons, etc.

### ILLEGAL VISITS TO OTHER CAMPUSES

Because of the grave danger involved which could result in the serious injury to or the death of an individual or individuals, officials of Louisiana Tech neither condone nor authorize pre-game visits to the campuses of other colleges. Any Tech student making such a visit for the purpose of defacing property or creating other disturbances will do so at his own risk and will be subject to dismissal from the institution.

### SOCIAL ACTIVITIES

Any social affair which concerns both men and women must be registered in the Dean of Women's Office *not later than 48 hours* prior to the event.

### BOARDING IN TOWN (WOMEN)

Women students who expect to board in town will be required to consult the Dean of Women before they are allowed to register.

### CHANGE OF ADDRESS

Any change of address must be reported at once to the Registrar and to the Dean of Men or Dean of Women.

### ASSEMBLY ATTENDANCE

Assemblies are held on call provided that not more than two interferences shall be allowed with one class and that assemblies shall be held to six in one semester as follows: One assembly for the meeting of the schools, one assembly by the student senate, four for outside speakers and special

purposes. Assemblies are not compulsory but all students are urged to attend.

## CLASS ATTENDANCE REGULATIONS

Class attendance is regarded as an obligation as well as a privilege and all students are expected to attend regularly and punctually all classes in which they are enrolled. Failure to do so will jeopardize a student's scholastic standing and may lead to immediate suspension from the college.

### ATTENDANCE OFFICE REQUIREMENTS

1. Each instructor shall check the roll at each class meeting, shall keep a permanent attendance record for each class, and shall report student absences to the appropriate college official.
2. A student shall submit excuses for all class absences to the appropriate administrative official designated by the President within three days after the student returns to his classes. The only excuses that will be accepted by the college, and these at the discretion of the administration, are those signed by doctors, parents, appropriate college authorities, and students over 21 years of age.
3. When a student receives a total of four unexcused absences in a given class, he is to be automatically dropped from that class with a grade of F. When a student accumulates a total of ten unexcused absences in all classes, he is placed on attendance probation for the remainder of the semester, unless in the judgment of the appropriate college official, the period of probation should be increased. *Absences from a class which the student plans to drop carry the same penalty as any other absences.*
4. Students on attendance probation will be dismissed from the college if an additional unexcused absence is incurred during the period of probation.
5. Tardiness is treated as an absence unless excuse is obtained from the instructor at the end of the period.
6. Students who are dropped for excessive absences will not be eligible to re-enter the college until the expiration of one full semester.

### FACULTY REQUIREMENTS

Class absences, except when a student is away on official college business, may or may not be excused, at the discretion of the individual teacher. Absences for official college business will be excused when the student presents a confirmation signed by the faculty member responsible for the college trip or business. Whenever an absence is excused, the student will be permitted to complete without penalty

the work missed. Students should report promptly (in the manner required by the teacher) to the instructor the reason for the absence. This report is merely for the instructor's information; it explains but does not remove the absence from the student's class record.

HONORABLE DISMISSAL

The term "Honorable Dismissal" is used to refer to conduct and character only. An Honorable Dismissal is never given unless the student's standing as to moral conduct and character is such as to entitle him to continuance in the college. Furthermore, in every transcript of the student's record full mention is made as to the cause of withdrawal.

## Expenses

I *REGULARLY ENROLLED GRADUATE OR UNDERGRADUATE STUDENTS:*

(def: taking one or more regularly scheduled classes)

1. *FEES:*
   - A. General Registration Fee ..... $ 20.00
     Distribution: Scholastic ..... $10.00
     Administrative ..... 10.00
   - B. Other Fees (as applicable):
     - (1) Out-of-State Fee:
       Undergraduate Student ..... 300.00
       Graduate Student ..... 350.00
       (Refer to Regulation Regarding Expenses)
     - (2) Graduation Fee:
       Undergraduate Student ..... 10.00
       Graduate Student ..... 5.00
     - (3) Associated Women Student Fee ..... .50
     - (4) Business Administration Fee ..... .50
     - (5) Education Fee ..... .50
     - (6) Engineering Fee ..... 1.00
2. *STUDENT BODY SELF-ASSESSMENTS:*
   - (1) Tech Talk (Student newspaper)* ..... 1.00
   - (2) Lagniappe (college annual)* ..... 5.00
   - (3) Studio (Lagniappe picture)* ..... 1.50
   - (4) Concert Fee ..... 2.75
   - (5) Student Center Fee ..... 3.00
   - (6) Dramatics Fee ..... .25
   - (7) Student Senate Fee ..... .50

   *Graduate Students not assessed
3. *DEPOSITS:*
   - (1) R.O.T.C. Deposit ..... 10.00

II *IN-SERVICE GRADUATE OR UNDERGRADUATE STUDENTS:*

(def: taking Special classes only)

In-Service Students will be assessed an Administrative Registration Fee of five dollars ($5.00) per semester hour. No other fees will be assessed, or permitted, other than an applicable out-of-state fee or graduation fee.

III *OTHER STUDENTS:*

1. Teaching Faculty and Staff of L.P.I. No Charge
2. Orphanage Student No Charge
3. Cooperative Internship Student $20.00 General Regis. Fee
4. Off-Campus Graduate Student working on Thesis or Research $20.00 General Regis. Fee
5. A student auditing one or more classes (not working for credit) $20.00 General Regis. Fee

## DETAILED INFORMATION AND REGULATIONS REGARDING EXPENSES

The General Registration Fee of $20.00, of which $10.00 is Scholastic Registration and $10.00 is Administrative Registration, is assessed upon all regularly enrolled graduate or undergraduate students each semester.

The Louisiana State Board of Education in session on August 15, 1950, took the following action: The board fixed the out-of-state student fee at the colleges under its control at $100.00 per semester plus all regular fees, except that, where another state charges a Louisiana student in excess of this amount, the out-of-state fee shall be fixed on the same basis as charged in the other state.

A regulation on Out-of-State Fees, passed by the State Board of Education on July 29, 1960, is as follows: "that the fees for out-of-state undergraduate students be fixed at $300.00 per semester and $150.00 for the summer session and the fees for out-of-state graduate students be fixed at $350.00 per semester and $175.00 for the summer session. These fees will apply to all out-of-state freshman and new students effective in the Fall semester of 1961."

(A college student whose parents or guardians live in another state shall be classified as a non-resident, or out-of-state student, and this classification shall continue as long as the student is a member of the student body of

Louisiana Polytechnic Institute, and such student shall be required to pay the fees assessed against non-resident students. This classification of non-resident students shall also govern in the case of out-of-state students twenty-one years of age or over.)

The Graduation Fee is payable by each student at the time of registration for his final semester or summer term. An undergraduate student will pay a graduation fee of $10.00 which includes a charge for the diploma, a two year subscription to the Tech Talk, and lifetime membership in the La. Tech Alumni Association.

The Associated Women Students Fee is payable by all regularly enrolled women students.

A student regularly enrolled in the School of Business Administration, School of Education, or the School of Engineering will pay the Business, Education or Engineering Fee as applicable.

Student Body Self-Assessments for Tech Talk, Lagniappe, Studio, Concert, Student Center, Dramatics and Student Senate are payable by all regularly enrolled graduate or undergraduate students with the following exception: Graduate students will not be assessed for the Tech Talk, Lagniappe or Studio; however, they may obtain a copy of the Lagniappe by paying the $5.00 charge directly to the Director of Publicity. Payment for the Lagniappe is made at the time of registration for the Fall semester only and the publication is issued during the Spring semester. Only one member of a family is required to pay for the Lagniappe.

Each student who enrolls in the R.O.T.C. Program will be required to make a $10.00 deposit to cover uniform damage, loss, etc.

None of the fees is refundable after classes begin.

### MEALS, ROOM, INFIRMARY SERVICE AND LAUNDRY

Rates for Meals, Room, Infirmary and Laundry are the following:

| PLAN | AMOUNT PER SEMESTER | AMOUNT OF ONE PAYMENT |
|---|---|---|
| Men—5 Day Plan | $224.60 | $56.15 |
| Men—7 Day Plan | 250.60 | 62.65 |
| Women—5 Day Plan | 238.60 | 59.65 |
| Women—7 Day Plan | 264.60 | 66.15 |

Meals may be obtained by students who do not live in the dormitory at the following rates:

| PLAN | AMOUNT PER SEMESTER | AMOUNT OF ONE PAYMENT |
|---|---|---|
| 5 Day Plan | $146.00 | $36.50 |
| 7 Day Plan | 172.00 | 43.00 |

Any single (unmarried) student who lives off of the campus may pay $6.60 Infirmary Fee and receive infirmary service.

All of the charges shown above are payable in advance at the time of registration. However, students are permitted to pay for meals or for meals, room, infirmary & laundry in four equal installments, the first payment being due at the time of registration and each of the remaining three payments being due at 4½ week intervals. Students are expected to accept the responsibility of making payments promptly; therefore, the school *will not send a statement* to the student of a payment due.

If an installment is not paid when due, seven days of grace will be permitted to provide for the possible late arrival of checks, etc. If an installment is not paid within these seven days of grace, a statement will be sent to the student in which he will be notified that unless the installment shall have been paid by the 14th day after the beginning of the period involved he will be suspended from school.

Meals served on Monday, Tuesday, Wednesday, Thursday and Friday will be the only ones covered by the Five Day Plan. Students on the Five Day Plan may eat in the Irene Tolliver Dining Hall on Saturday and Sunday by paying cash for the meals.

No student will be permitted to change from the Five Day Plan to the Seven Day Plan, or vice versa, during a semester or session.

No student who withdraws from meal service or from the dormitories during a semester will be permitted to return before the beginning of the next semester or session.

No refunds will be made for a portion of a pay period except under conditions as specified in "moving from campus" regulations.

Each dining student will be required to have his identification card ready for presentation if requested to do so by the checkers in the dining hall.

Short absences do not reduce the cost of operating the boarding departments, and no deduction will be made for an absence of one week or less. For longer absences, deduction will be made for the number of days in excess of seven.

Excess laundry charges will be made in accordance with allowances as shown on the printed laundry slip.

Laundry Service is not available to the student who does not live in the dormitory.

Louisiana Polytechnic Institute reserves the right to increase the cost of meals, room, infirmary & laundry at any time if conditions should require such a change.

The Auditor will not approve the resignation of any student who is indebted to the school. A student who is indebted to any department of the college will not receive credit for academic work already done, nor will he be permitted to re-enroll. No transcript of work will be issued by the college until all indebtedness has been paid.

Dormitory students are not advised to leave money in their room. Deposit acounts may be opened by dormitory students in the Auditor's office. No charge will be made for this service.

# *Part III — The Schools, Departments, and Curricula*

## THE GRADUATE PROGRAM

### HISTORY

A graduate program at Louisiana Polytechnic Institute was authorized by the State Board of Education on April 3, 1958.

### ADMINISTRATION

All graduate work at Louisiana Polytechnic Institute is supervised by a Graduate Council. Inquiries concerning graduate study should be addressed to The Chairman, Graduate Council, Louisiana Polytechnic Institute, Ruston, Louisiana.

### DEGREES

The degrees of Master of Science, Master of Arts in Education, and Master of Science in Education are offered. A student seeking the degree of Master of Science will pursue a curriculum in one of the following fields: bacteriology, botany, chemistry, agricultural engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering, petroleum or geological engineering, geology, home economics education, mathematics, physics, or zoology. A student seeking the degree of Master of Arts in Education will declare a major in one of the following teaching fields: art, English, music, social science, speech, or elementary education. A student seeking the degree of Master of Science in education will declare a major in one the following teaching fields: biology, business education, chemistry, mathematics, physical education, or physics.

### FEES

Full-time graduate students, and part-time graduate students taking one or more regularly scheduled classes, will be charged on the same fee basis as undergraduate students.

## Regulations Governing Graduate Study

### ADMISSION TO GRADUATE SCHOOL

For admission to graduate school the applicant must satisfy all general admission requirements for Louisiana Polytechnic Institute. Application forms for admission to graduate school may be secured from the registrar's office. Transcripts of the applicant's undergraduate record and of all other academic work of undergraduate or graduate level taken at other institutions must be submitted to this office.

Students who have completed an undergraduate degree at a college or university other than Louisiana Polytechnic Institute must file application forms and a complete transcript in the registrar's office at least 30 days before the beginning of the semester or summer session in which they expect to enroll at Louisiana Polytechnic Institute for graduate study.

## REGULAR ADMISSION

To be admitted as a regular student the applicant must have earned a bachelor's degree from a regionally accredited institution or an institution under the jurisdiction of the Louisiana State Board of Education and must have achieved a grade-point average of at least 2.5 (A=4, B=3, C=2, D=1, F=0).

## CONDITIONAL ADMISSION

Applicants not qualified for regular admission may be granted conditional admission by the Graduate Council while satisfying or validating undergraduate deficiencies, provided they have earned on all undergraduate credit pursued a minimum of a 2.0 average (four-point system).

## REMOVAL OF CONDITIONAL STATUS

Conditional status may be changed to regular status when a student earns a minimum of 12 hours of graduate credit, provided he has a "B" average on all graduate work pursued, including no grade lower than "C" and not more than one course with a grade of "C." If at the time a student completes 12 semester hours of graduate credit he is not eligible for regular status, he may not later be admitted to candidacy for a degree.

## GRADUATING SENIORS

A graduating senior at this institution who has a "B" average on all work pursued and who lack and schedules not more than seven semester hours (four in summer session) for the completion of his bachelor's degree may register for a maximum of six semester hours (three in summer session) of graduate credit. Such a student retains his undergraduate status and may not be admitted to graduate school until he has been awarded the bachelor's degree.

## ADVISORY COMMITTEE

Upon admission to the graduate school the student will report to the dean of the school in which he expects to complete degree requirements and will request the appointment of an adviser. When the student and his adviser have agreed upon a degree program, the academic dean concerned will appoint an advisory committee, after consultation with the adviser and the head of the department. At least ten

days before his degree is expected, this committee will administer the student's final comprehensive examination and must approve his thesis before it is accepted.

## ADMISSION TO CANDIDACY

Admission to the graduate school does not admit a student to candidacy for a degree. Admission to candidacy indicates a judgment by members of the graduate faculty that the student shows sufficient promise to be permitted to proceed toward a degree. This decision is dependent upon the student's ability and the quality of his work as well as upon personal and professional qualifications. Admission to candidacy presumes a minimum undergraduate program, and the student must have removed any deficiencies before making application for candidacy. Credits taken to remove subject-matter deficiencies do not apply toward the degree.

To qualify for candidacy for the degree of Master of Arts in Education or Master of Science in Education the applicant must hold a valid Louisiana public-school teacher's certificate or a teacher's certificate with the same minimum requirements in the major field of study and in professional education. Those enrolling in curricula leading to either of these degrees who do not hold such a certificate will be expected to regard as deficiencies all courses they have not completed which are necessary to certification.

In order to be eligible for admission to candidacy for the master's degree a student must have achieved regular status, must have had a degree plan approved by his advisory committee and by the dean of the school in which he is registered, must have completed a minimum of 12 semester hours of graduate work, and must have earned a "B" average on all graduate work pursued.

Having met these requirements, the student may submit to the Graduate Council an application for candidacy for the degree. The final decision for admission to candidacy is by vote of the Graduate Council, upon the recommendation of the student's committee with the approval of the dean of the school in which the applicant is taking his graduate degree.

## REQUIREMENTS FOR DEGREES

The minimum credit requirement for the master's degree is 30 semester hours of graduate work, not more than six of which may be allowed for the thesis course and completion of a thesis. In optional programs not requiring a thesis the standard course requirement shall not be less than 30 hours. Students who do not write a thesis must demonstrate acceptable proficiency in research and reporting.

The student must complete a minimum of 18 semester hours of graduate credit in a major field, inclusive of credit for the thesis course and completion of a thesis, and a minimum of 12 semester hours of graduate credit outside the field of professional education. A minimum of one-third of the course credit for the degree must be in subjects open only to graduate students. An average of not less than "B" on all graduate work pursued, with no grade lower than 'C" and not more than six hours credit with a grade of "C," shall be presented to fulfil the course requirement for the degree.

The exact program for the master's degree is an individual matter to be developed jointly by the student and his adviser, subject to the approval of the advisory committee and the dean of the school in which he is registered for his major program.

## COMPREHENSIVE EXAMINATION

A comprehensive examination covering all areas of study presented for the degree is required of each candidate.

## COURSE LOAD

The maximum course load for a student registered for graduate study during a regular semester is 16 semester hours; the minimum for a full time graduate student is nine semester hours. The maximum course load for a student registered for graduate study during any single summer session is one semester hour for each week of the session; the minimum for a full-time student during a summer session is four semester hours.

The maximum course load which may be scheduled by a student who is carrying a full load of outside work is one course, not to exceed four semester hours of credit per semester or summer session.

A graduate assistant will be required to take a reduced load.

## RESIDENCE REQUIREMENT

To satisfy the residence requirement a student shall be enrolled for a minimum of 18 weeks of full-time graduate study and shall earn a minimum of 12 semester hours while enrolled as a full-time graduate student. The remainder of the residence requirement may be met by taking a minimum of 12 additional semester hours in residence. The total minimum residence requirement is 24 hours.

## TRANSFER OF CREDIT

The student may transfer from a regionally accredited college or university a maximum of six semester hours of resident graduate credit with a grade of not less than "B."

## TIME LIMIT

All requirements for the degree must be completed within six consecutive calendar years.

## LANGUAGE REQUIREMENT

One of the requirements for the degree of Master of Science in the departments of chemistry, physics, and geology is the demonstration of proficiency in reading a modern foreign language specified by the department in which the degree will be conferred. During his first semester or summer session of residence for graduate study in one of the departments having such a language requirement, the student should report to the dean of the School of Arts and Sciences and request a proficiency test. The dean will designate an examiner for this test, which must be taken during the semester or summer session prior to the term in which the student expects to receive his degree. When a student passes the proficiency test, the examiner should report the satisfactory result to the head of the major department and the dean of the School of Arts and Sciences. The dean, in turn, should inform the Graduate Council that the student has successfully fulfilled this degree requirement.

## THE MASTER'S THESIS

Ordinarily the fitness of a student for the graduate degree is tested in three ways: by requiring him to complete a series of advanced courses constituting a unified plan of study, by requiring him to submit an acceptable graduate thesis, and by requiring him to pass an oral or written comprehensive examination, or both. The thesis tests the candidate's knowledge of methods of investigation and his ability to apply the knowledge he has acquired. The comprehensive examinations test his knowledge of his special field by directing attention to the field as a whole, as contrasted with course examinations, which deal with a limited portion of the field.

A thesis subject should be selected by the student, in consultation with the chairman of his advisory committe, and approved by his advisory committee during the semester or summer session prior to the term in which he expects to receive his degree. With permission of his advisory committee, a student not in residence who has satisfied all course requirements may complete his thesis *in absentia.*

The subject of the thesis must be connected with the major,* must be connected with a course or courses pursued

* In the School of Education, students pursuing the degree of Master of Arts in Education or Master of Science in Education may elect to write either in the professional field or the content field. If the thesis is to be written in the professional field, credit must be earned in Education 851-852, Educational Research and Thesis. If it is to be written in the content field, credit must be earned by taking the appropriate thesis course, as English 851-852, Chemistry 851-852, etc.

in residence, and may count not to exceed six hours, certified by registration in and completion of all requirements of a Thesis Course, numbered 851-852. The thesis, in order to be approved, must be written in correct English and in scholarly form. It must show independent thought, both in its recognition of a clearly defined problem and in its method of treatment. It must reveal the sources of information and a knowledge of the bibliography of a special field.

After the preliminary copy of the thesis has been approved by the student's advisory committee, the final draft must be presented to the chairman of that committee, in four copies, at least two weeks before the time at which the degree is expected to be conferred. The original and the first and second carbon copy must be typed on white bond paper of not less than 20-pound weight; the other copies may be typed on white bond paper of not less than 16-pound weight. Onionskin or other thin papers are not acceptable.

The Graduate Council has officially adopted the following style manual for use by graduate students in preparing theses: Kate L. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations,* University of Chicago Press, 1955. This manual is stocked in the college bookstore.

Each member of the student's advisory committee must approve and sign the final draft of the thesis. Other signatures required are those of the dean of the school in which the thesis is written and the Chairman of the Graduate Council.

Theses presented in temporary binders or with holes punched in the margin are not acceptable. Photographs, diagrams, or other illustrative material should be well pasted down so that they can not be easily removed. Theses should not be turned in that are dog-eared, soiled, or have folded and creased title pages.

The candidate should deposit in the college library the original copy and first and second carbon copies of his thesis and pay the required bindery fee. These copies should be loose leaf, in folders. The original and first carbon copy will be shelved in the library. The second carbon copy will be retained in the archives of the school in which the degree was earned. The third carbon copy, in temporary binding, will be presented to the chairman of the student's advisory committee.

## OPTIONAL PROGRAMS

Various departments recognize an optional program of six hours of additional course work in lieu of a thesis. The student completing a thesis will earn credit in not less than

24 hours of graduate courses and will receive six more hours of credit for the thesis course and thesis, whereas the student electing the optional program must complete credit for not less than 30 hours of graduate courses, not including a thesis course. In case the option is chosen, the student must demonstrate proficiency in research and in reporting as part of the requirement of his graduate courses.

## SCHEDULE FOR MEETING REQUIREMENTS IN THE GRADUATE PROGRAM

LANGUAGE EXAMINATION (if required)—during the first full semester of residence.

REMOVAL OF PROVISIONAL STATUS (when applicable)—during the second full semester in residence (or as soon thereafter as the student completes 12 hours of graduate work).

ADMISSION TO CANDIDACY—during the second full semester in residence (or as soon therafter as the student completes 12 hours of graduate work) and following approval of a degree plan and research project by the advisory committee.

SUBMISSION OF THESIS (when required)—at least two weeks before the expected date of graduation.

COMPREHENSIVE EXAMINATION—at least one week before the expected date of graduation.

NOTIFICATION OF DEAN—at least three days before the expected date of graduation. The chairman of the advisory committee will notify the Dean of the School that the candidate has completed all requirements and is eligible to receive the master's degree. The Dean will, by letter, so inform the Chairman of the Graduate Council.

# GRADUATE FACULTY

## SCHOOL OF AGRICULTURE AND FORESTRY

Beckett, Frederick E. *Professor of Agricultural Engineering.* Ph.D., Oklahoma State University. Registered P.E., Louisiana. (1952)

Fernholz, Donald L. *Professor of Botany.* Ph.D., Ohio State University. (1949)

Folk, M. Hayne, Jr. *Professor and Head of the Department of Botany, Dean of the School of Agriculture and Forestry.* M.S., Louisiana State University. Additional graduate work at Louisiana State University. (1926)

Hackbarth, Winston P. *Associate Professor of Botany.* Ph.D., Iowa State College. (1959)

Logan, Lowell A. *Associate Professor of Botany.* Ph.D., University of Missouri. (1960)

Lutes, Dallas D. *Associate Professor of Botany.* Ph.D., University of Missouri. (1955)

McDow, John J. *Professor and Head of the Department of Agricultural Engineering.* Ph.D., Michigan State University. Registered P.E., Louisiana. (1951)

Wasmer, Otto, Jr. *Professor of Botany.* Ph.D., University of Nebraska. (1953)

## SCHOOL OF ARTS AND SCIENCES

Abegg, Roland. *Professor and Head of the Department of Zoology.* Ph.D., Louisiana State University. (1959)

Adam, Francis O., Jr. *Professor of Spanish.* Ph.D., University of Illinois. (1937)

Afeman, Francis L. *Professor of Zoology.* M.S., Louisiana State University. Additional graduate work at Louisiana State University and Iowa State University. (1934)

Bethea, F. Elizabeth. *Professor and Head of the Department of Art.* M.A., Columbia University. Additional graduate work at University of Alabama, Colorado A. and M., University of New York, University of Chicago. (1926)

Bonner, George Paul. *Associate Professor of Physics.* M.S., Florida State University. Additional graduate work at Vanderbilt University. (1950-52) (1956)

Bretz, Marshall E. *Professor and Head of the Department of Music.* S.M.D., Union Theological School of Music. (1944)

Brooks, Louise. *Assistant Professor of Speech.* M.A., Louisiana State University. Additional graduate work at Louisiana State University. (1954)

Brown, Harry Matthew. *Associate Professor of English.* Ph.D., Western Reserve University. (1956)

Brumage, William H. *Associate Professor of Physics.* M.S., Oklahoma A. and M. College. Additional graduate work at University of Oklahoma. (1952)

Cason, Robert L., Jr. *Associate Professor of Physics.* M.S., Louisiana State University. Additional graduate work at Louisiana State University. (1948)

Cazedessus, Duchein. *Associate Professor of Music.* M.M., Manhattan School of Music. Additional graduate work at Columbia University, Indiana University, Temple University. (1949)

Chadbourn, Charles C., Jr. *Associate Professor of English.* Ph.D., Syracuse University. (1955)

Cotton, Edith M. *Associate Professor of Music.* M.A., Northwestern University. Additional graduate work at University of Minnesota, University of Chicago, Southern Methodist University. (1943)

Dowdey, J. Edward. *Associate Professor of Physics.* Ph.D., University of Texas. (1959)

Elioff, Robert, *Associate Professor of Physics.* M.S., University of Florida. Additional graduate work at Louisiana State University. (1947)

Fiehler, Rudolph. *Associate Professor of English.* Ph.D., University of Texas. (1956)

Fletcher, M. Frances. *Professor of English.* Ph.D., Louisiana State University. (1955)

Folk, Lucile P. *Assistant Professor of English.* Ph.D., Louisiana State University. (1954)

Garner, Jackie B. *Assistant Professor of Mathematics.* Ph.D., Alabama Polytechnic Institute. (1957)

Gilbert, Jimmie D. *Assistant Professor of Mathematics.* Ph.D., Alabama Polytechnic Institute. (1958)

Harris, Mark R. *Associate Professor of Art. M.A.,* Columbia University. Additional graduate work at the University of Houston and School for American Craftsmen at Rochester Institute of Technology. (1953)

Herbert, Wallace. *Professor of Mathematics.* Ed.D., Oklahoma A. and M. College. (1942)

Johnson, David E. *Associate Professor of Mathematics.* Ph.D., Alabama Polytechnic Institute. (1954)

Johnson, Johnnie R. *Assistant Professor of Mathematics.* Ph.D., Alabama Polytechnic Institute. (1958)

Kilgore, S. S. *Associate Professor of Zoology.* M.S., Stetson University. Additional graduate work at Rocky Mountain Biological Station. (1952)

Koss, Walter E. *Professor of Mathematics.* Ph.D., University of Illinois. (1957)

Lee, Dwight A. *Associate Professor of English.* Ph.D., University of Missouri. (1957)

Luce, John R. *Assistant Professor of Music.* Ed.D., University of Nebraska. (1958)

Mahood, Harry Richard. *Assistant Professor of Political Science.* Ph.D., University of Illinois. (1960)

Martin, Jack B., Jr. *Associate Professor of Chemistry.* M.S., University of Texas. Additional graduate work at the University of Texas. (1947)

McGinty, Garnie W. *Professor and Head of the Department of Social Sciences.* Ph.D., University of Texas. (1928)

Milstead, John. *Associate Professor of English.* Ph.D., University of Wisconsin. (1958)

Moffett, Mary W. *Professor of Art.* M.A., Colmbia University. Additional graduate work at Northwestern University, Art Institute of Chicago, Institute of Design in Chicago, Syracuse University, California College of Arts and Crafts, Tulane University. (1928)

Mondy, Robert W. *Professor of History.* Ph.D., University of Texas. (1936)

Morton, John W., Jr. *Professor of Chemistry.* Ph.D., Iowa State College. (1954)

Moseley, Edward H. *Assistant Professor of History.* M.A., University of Alabama. Additional graduate work at the University of Alabama. (1960)

Patton, Selma Hicks. *Associate Professor of Chemistry.* Ph.D., Purdue University. (1956)

Pennington, Paul J. *Professor and Head of the Department of Speech.* Ph.D., Louisiana State University. (1952)

Richard, Oneil J. *Associate Professor of French. Ph.D.,* Tulane University. (1955)

Ridley, Bromfield L. *Associate Professor of Zoology.* Ph.D., Iowa State University. (1961)

Ruff, Horace Ewing, Jr. *Professor and Head of the Department of Physics.* Ph.D., Iowa State College. (1938)

Sachs, H. J. *Professor and Head of the Department of English and Foreign Languages.* Ph.D., George Peabody College. (1929)

Sandoz, Ellis. *Assistant Professor of Political Science.* M.A., Louisiana State University. Additional graduate work at the University of Munich (Germany). (1959)

Shea, Philip. *Instructor of Geography.* M.A., Michigan State University. Additional graduate work at Michigan State University. (1960)

Smith, Charles Hooper. *Professor and Head of the Department of Chemistry.* Ph.D., Louisiana State University. (1940)

Stone, Arthur W. *Associate Professor of Speech.* M.A., Western Reserve University. Additional graduate work at Louisiana State University. (1947)

Sutter, John. *Assistant Professor of Chemistry.* Ph.D., Tulane University. (1960)

Temple, W. B. *Professor and Head of the Department of Mathematics.* Ph.D., University of Texas. (1948)

Thompson, William Y. *Associate Professor of History.* Ph.D., University of North Carolina. (1955)

Trisler, John C. *Assistant Professor of Chemistry.* Ph.D., Texas Technological College. (1959)

Trout, Robert O. *Professor of Geography and Sociology.* Ph.D., Louisiana State University. (1947)

Walker, Phillip A. *Associate Professor of History.* Ph.D., University of North Carolina. (1958)

Weathersby, Scott, *Professor of Zoology.* M.S., Louisiana State University. Additional graduate work at Louisiana State University and New York University. (1938)

Wilson, John B. *Professor of English and Dean of the School of Arts and Sciences.* Ph.D., University of North Carolina. (1954)

Winters, John D. *Professor of History.* M.A., Louisiana State University. Additional graduate work at Louisiana State University. (1948)

## SCHOOL OF BUSINESS ADMINISTRATION

Balsley, Howard L. *Professor of Business Statistics and Head of the Department of Business and Economics Research.* Ph.D., Indiana University. (1954)

Balsley, Irol Whitmore. *Professor of Office Administration.* Ed.D., Indiana University. (1954)

Butler, James F. *Assistant Professor of Business Statistics and Economics.* M.B.A., University of Arkansas. Additional graduate work at Louisiana State University. (1961)

Ferrington, Russell C. *Assistant Professor of Accounting.* M.B.A., Louisiana State University. Additional graduate work at Michigan State University. (1953)

Grubbs, Kenneth R. *Professor of Economics and Finance.* Ph.D., University of Texas. (1952)

Hendershot, Paul T. *Professor of Economics and Finance and Head of the Department of Economics.* Ph.D., Louisiana State University. (1947)

Hudnall, Jarrett C. *Assistant Professor of Marketing and Management.* M.B.A., University of Texas. Additional graduate work at the University of Alabama. (1961)

Johnson, James T. *Professor of Accounting.* Ph.D., Louisiana State University. C.P.A., Louisiana. (1948)

Jones, E. Carl. *Associate Professor of Economics.* M.S., Louisiana State University. Additional graduate work at Louisiana State University. (1947)

Meek, Wilbur T. *Professor of Economics and Management.* Ph.D., Columbia University. (1949)

Oglesby, Dwayne L. *Associate Professor of Law.* M.A., Ll.B., University of Kansas. (1955)

Risinger, Burton R. *Professor of Finance and Dean of the School of Business Administration.* M.B.A., Louisiana State University. Additional graduate work at Louisiana State University, University of Texas, University of Chicago. (1945)

Thornhill, Jack N. *Assistant Professor of Economics.* Ph.D., Louisiana State University. (1960)

Tracey, Minnie B. *Professor of Marketing and Management.* Ph.D., Ohio State University. (1951)

## SCHOOL OF EDUCATION

Bergeron, Wilbur L. *Associate Professor of Psychology.* Ed.D., University of Arkansas. (1953)

Bordelon, Wilmore J. *Professor of Education.* Ph.D., Louisiana State University. (1947)

Cawthon, John Ardis. *Professor of Education and Head of the Department of Secondary Education.* Ed.D., University of Texas. (1954)

Cocanougher, LaRue. *Associate Professor of Education.* Ed.D., George Peabody College. (1956)

Craig, Archie William. *Assistant Professor of Physical Education.* M.S., Louisiana State University. Additional graduate work at Louisiana State University and the University of Mississippi. (1955)

Crow, William M. *Associate Professor of Education.* Ed.D., University of Arkansas. (1959)

Freeman, George P. *Professor of Education.* Ed.D., George Peabody College. (1947)

Gantt, Mildred M. *Associate Professor of Library Science.* M.S. (L.S.)., George Peabody College. Additional Graduate work at George Peabody College. (1949)

Hogg, George B. *Professor of Physical Education and Head of the Department of Health and Physical Education.* M.S., Louisiana State University. Additional graduate work at Louisiana State University, the University of Arkansas, and the University of Colorado. (1934)

McLane, Lovick P. *Professor of Physical Education.* M.S., Louisiana State University. Additional graduate work at Louisiana State University, University of Alabama, University of Michigan. (1934)

Owen, Jason C. *Associate Professor of Education and Head of the Department of Elementary Education.* Ed.D., University of Missouri. (1949)

Poret, George C. *Professor of Psychology.* Ph.D., George Peabody College. (1939)

Tabarlet, Bobby E. *Associate Professor of Education.* Ph.D., Louisiana State University. (1958)

Williamson, A. Huey. *Associate Professor of Physical Education.* M.S., University of Arkansas. Additional graduate work at University of Colorado, California Polytechnic Institute. (1946)

Woodard, Clifford T. *Professor of Education and Dean of the School of Education.* M.A., George Peabody College. Additional graduate work at George Peabody College and University of Arkansas. (1947)

## SCHOOL OF ENGINEERING

Allen, Rhesa M., Jr. *Professor of Geology.* Ph.D., Cornell University. Registered P.E., West Virginia. (1957)

Baggarly, Stewart. *Associate Professor of Mechanical Engineering.* M.S., University of Texas. Additional graduate work at University of Texas. Registered P.E., Louisiana. (1954)

Barnwell, Joseph H. *Professor of Mechanical Engineering.* M.S., Texas A. and M. University. Registered P.E., Louisiana. (1941-1951) (1958)

Bogard, Ben T. *Professor of Mechanical Engineering and Dean of the School of Engineering.* M.S., Louisiana State University. Additional graduate work at the University of Texas and Louisiana State University. Registered P.E., Louisiana. (1937)

Bussell, William H. *Associate Professor of Mechanical Engineering.* M.S., University of Florida. Additional graduate work at Michigan State University. Registered P.E., Florida. (1957)

Calhoun, John D. *Professor of Mechanical Engineering.* M.S., Louisiana State University. Registered P.E., Louisiana. (1948)

Chew, Woodrow W. *Professor and Head of the Department of Chemical Engineering.* M.S., Oklahoma State University. Registered P.E., Louisiana. (1940)

Edwards, C. H., Jr. *Associate Professor of Civil Engineering.* M.S., University of Texas. Additional graduate work at the University of Texas. Registered P.E., Louisiana. (1949)

Higgs, William R. *Assistant Professor of Geology.* M.S., University of Alabama. Additional graduate work at University of Missouri. Registered P.E., Louisiana. (1955)

Johnson, David L. *Professor and Head of the Department of Electrical Engineering.* Ph.D., Oklahoma State University. Registered P.E., Louisiana and Oklahoma (1955)

*Johnson, Milton R., Jr. Professor of Electrical Engineering.* M.S., Oklahoma State University. Additional graduate work at Texas A. and M. University. Registered P.E., Louisiana and Arkansas. (1947)

Kallsen, Henry A. *Professor of Civil Engineering.* Ph.D., University of Wisconsin. Registered P.E., Wisconsin, Louisiana. (1959)

Killgore, Ellis M. *Associate Professor of Mechanical Engineering.* M.S., Georgia Institute of Technology. Registerel P.E., Louisiana. (1949-1952) (1953)

Laswell, Troy J. *Professor of Geology.* Ph.D., University of Missouri. Registered P.E., Missouri. (1957)

McLeane, Robert W. *Associate Professor of Civil Engineering.* M.S., Missouri School of Mines and Metallurgy. (1957)

Malone, James W. *Associate Professor of Chemical Engineering.* M.S., Louisiana State University. Registered P.E., Louisiana. (1947, 1956)

Nobles, Melvin A. *Professor and Head of the Department of Petroleum and Geological Engineering.* Ph.D., University of Texas. Registered P.E., Oklahoma. (1957)

Orr, Virgil. *Professor of Chemical Engineering and Head of the Department of Engineering Research.* Ph.D., Louisiana State University. Registered P.E., Louisiana. (1952)

Painter, Jack T. *Associate Professor of Civil Engineering.* M.S., West Virginia University. Additional graduate work at Purdue University. Registered P.E., Louisiana. (1955)

Panula, Gustaf H. *Professor of Chemical Engineering.* Ph.D., University of Colorado. Registered P.E., Illinois. (1954)

Rostron, Charles R. *Assistant Professor of Civil Engineering.* M.S., University of Houston. Registered P.E., Louisiana and Texas. (1955)

Roy, Francis. *Associate Professor of Electrical Engineering.* M.S., University of Texas. Registered P.E., Louisiana. (1955)

Smith, Richard A. *Professor and Head of the Department of Civil Engineering.* M.S., Louisiana State University. Registered P.E., Louisiana and Virginia; Certificate of Qualification from the National Bureau of Engineering Registration. (1947)

Steere, Richard M. *Professor of Electrical Engineering.* M.S., Massachusetts Institute of Technology. Registered P.E., Louisiana. (1955)

Storms, R. E. *Assistant Professor of Petroleum Engineering.* M.S., Texas A. and M. College. Registered P.E., Texas. (1959)

Thigpen, Arthur C. *Professor of Electrical Engineering.* M.S., Oklahoma State University. Registered P.E., Louisiana. (1947)

Thigpen, J. J. *Professor and Head of the Department of Mechanical Engineering.* Ph.D., University of Texas. Registered P.E., Louisiana. (1947)

Trammell, Grover J. *Professor of Mechanical Engineering.* M.S., Tulane University. Additional graduate work at Louisiana State University. Registered P.E., Louisiana. (1957)

## SCHOOL OF HOME ECONOMICS

Burk, Merle. *Professor of Home Economics.* M.A., State University of Iowa. Additional graduate work at University of Colorado, Columbia University, McDowell School of Design, and Michigan State College. (1932)

Cofer, Agnes Chambless. *Associate Professor of Home Economics.* M.S., Louisiana State University. Additional graduate work at Columbia University and Florida State University. (1944) (1955)

Graham, Alice Millett. *Professor of Home Economics and Dean of the School of Home Economics.* M.S., Iowa State College. Additional graduate work at Chicago University, Columbia University, Southern Methodist University, and University of Tennessee. (1944)

Richardson, Ruth. *Professor of Home Economics.* M.S., Louisiana State University. Additional graduate work at Colorado State University, University of Wyoming, Southern Methodist University, and Texas Women's University. (1938)

# SCHOOL OF AGRICULTURE AND FORESTRY

*M. HAYNE FOLK, JR., Dean*

The School of Agriculture and Forestry is organized into the Department of Agricultural Engineering, the Department of Agronomy and Horticulture, the Department of Animal Industry, the Department of Botany and Bacteriology, and the Department of Forestry. It offers, in addition to the two-year Pre-Veterinary Medicine Curriculum, eleven four-year curricula leading to the degree of Bachelor of Science. These curricula are in:

General Agriculture
Agricultural Engineering
Agronomy
Animal Husbandry
Bacteriology (Microbiology)
Botany
Dairy Manufacturing
Dairy Production
Forestry
Horticulture
Wildlife Conservation and Management

The curricula are designed to provide the students with a firm foundation of the pure sciences and their various applications; to give them a broad, general education or a more specialized, technical one; and to prepare them for leadership in the cultural and practical affairs of life.

The degree of Master of Science is offered in the fields of Agricultural Engineering, Botany, and Bacteriology.

A separate bulletin of the School of Agriculture and Forestry, furnishing detailed information, is available to students who plan to enter the School. Requests for this bulletin should be sent to the Office of the Dean of the School of Agriculture and Forestry or to the Office of the Registrar, Louisiana Polytechnic Institute, Ruston, Louisiana.

Graduates of the School are qualified to enter graduate schools to prepare for college or university teaching and other professions. Among the many vocations or professions available to students following the completion of the various curricula of the School of Agriculture and Forestry are:

GENERAL AGRICULTURE: Farming, farm management; plant breeding; animal breeding; assistant county agent service; work with privately owned agricultural businesses; advisory work with farm journals, banks, etc.; work with government agencies or industries; research in experiment stations.

AGRICULTURAL ENGINEERING: Farm machinery operation and management; design and construction of farm buildings; farm equipment manufacturing; farm implement merchandising; work with rural electrification agencies; soil and water conservation engineering; advisory work with

utility companies and public works; agricultural engineering research in experiment stations.

AGRONOMY: Independent farming; farm supervision or management; seed production and sales; commercial crop grading; land appraising; plant breeding; soil technology, etc., in the U. S. Soil Conservation Service; work with fertilizer concerns and other businesses; research in experiment stations; agronomic work in the U. S. Department of Agriculture.

ANIMAL HUSBANDRY: Livestock production; management of livestock farms; animal breeding; processing and preserving of meats; nutritional work with feed businesses; work with animal breed associations; livestock dealership; sales positions with feed companies; positions with the Federal Bureau of Animal Industry; research in experiment stations.

BACTERIOLOGY (MICROBIOLOGY): Positions in federal, state, and municipal laboratories; positions in the fields of medical and public health microbiology; bacteriological work in sanitary, food, dairy, soil, and industrial technology; food preservation work; positions in experiment stations, research institutes, colleges, or universities.

BOTANY: Positions as geneticists, technicians, researchers, sales representatives, etc., with industrial firms; with graduate study, positions as teachers in colleges or universities; work with the National Park Service, the U. S. Bureau of Plant Industry, the U. S. Forest Service, and the U. S. Bureau of Plant Quarantine; positions with state and federal agencies in plant breeding, conservation, sanitation, and inspection programs; commercial greenhouse, nursery, and florist shop work; and research work in experiment stations.

DAIRY MANUFACTURING: Responsible positions in one or more of the following fields: (1) dairy technology; (2) dairy plant operation; (3) dairy plant management; (4) dairy engineering; (5) merchandising dairy products, supplies, and equipment; (6) graduate work, research, and teaching.

DAIRY PRODUCTION: Dairy production, dairy farm management; dairy cattle breeding; inspection of dairy products and dairy establishments; dairy manufacturing; milk plant operation and management; nutritional work with feed industries; promotional and selling positions with feed companies; work in extension service; and research in experiment stations.

FORESTRY: Forest management; forest service with

state, county, and municipal agencies; work in the U. S. Forest Service; work in the Soil Conservation Service; positions with the U. S. Fish and Wildlife Service; positions with the National Park Service; work with paper mill and lumber industries; lumber products manufacturing; research in experiment stations.

HORTICULTURE: Truck farming, fruit growing, flower gardening; landscaping; commercial greenhouse, nursery, and florist shop work; plant propagation and breeding; service with the U. S. Department of Agriculture; work in privately owned horticultural businesses; work in commercial fungicide and insecticide companies; positions with canneries, seed companies, and fertilizer manufacturers; investigational work in experiment stations.

PRE-VETERINARY MEDICINE: Preparation for entering veterinary colleges. A degree is not offered in this curriculum.

WILDLIFE CONSERVATION AND MANAGEMENT: Positions with the U. S. Fish and Wildlife Service; work with the National Park Service; positions with the United States Bureau of Plant Industry; positions with the U. S. Soil Conservation Service; work in the U. S. Forest Service; positions with the various state game and fish commissions; private wildlife management; research work in experiment stations; and positions in extension service.

# SCHOOL OF ARTS AND SCIENCES

*JOHN B. WILSON, Dean*

In the School of Arts and Sciences are the departments of Art, Chemistry, English and Foreign Languages, Journalism, Mathematics, Music, Physics, Social Science, Speech, and Zoology. Basic offerings of the School include a two-year academic curriculum of liberal arts and pure sciences and seven pre-vocational curricula: pre-law, pre-nursing, pre-dentistry, pre-medicine, pre-pharmacy, pre-theology, and social welfare.

Various specialized curricula are offered by each of the ten departments. These courses of study provide a broad, general education, prepare students to enter graduate or professional school, and train them to engage in many vocations. In addition, a "Curriculum in General Studies," listed among the offerings, enables the student to select a major in some other school, in a framework of liberal studies offered by the School of Arts and Sciences.

On April 3, 1958, the School of Arts and Sciences was authorized by the State Board of Education to offer the degree of Master of Science in the fields of chemistry, geology, mathematics, physics, and zoology. In addition, the School has organized major graduate disciplines in the following areas, to be administered by the School of Education: chemistry, English, mathematics, social sciences, physics, and zoology.

For complete information concerning the School of Arts and Sciences, see the special bulletin of the School. It may be obtained by writing to the dean of the School, whose name appears above, or to the registrar, Miss Mabel May.

## ART

Art curriculum, B.A.

Commercial Art curricula, B.A. and B.S.

Interior Decoration curricula, B.A. and B.S.

These curricula train students for commercial design (advertising, illustration, display); for crafts (pottery design and construction, metal work, weaving); for interior design; for drawing (cartooning, medical and dental illustration, drafting); for merchandizing (furniture, drapery, wallpapers); for painting, and for direction of recreational and craft programs.

## CHEMISTRY

Chemistry curricula, B.S. and
B.S. in Chemistry; M.S.

The courses of study in this department prepare students for positions as managers, superintendents, or foremen in charge of chemical or manufacturing processes; for work as research chemists in industrial laboratories; for teaching positions in high schools, colleges, and universities, and for positions as technical salesmen.

## ENGLISH AND FOREIGN LANGUAGES

English curriculum, B.A. Spanish curriculum with a
French curriculum, B.A. Commerce minor, B.A.
Spanish curriculum, B.A.

*English*: The English curricula provide basic training for many occupations, particularly law, politics, journalism, the ministry, and teaching. Disciplines in creative writing are afforded through courses in literature and composition and participation in the activities of the English fraternity, Sigma Tau Delta.

*Foreign Languages*: Courses in French, Spanish, and German prepare the student for such vocations as consular and government service, radio announcing, library work, missionary service, translating, positions in travel agencies, teaching, and positions with commercial airlines.

## JOURNALISM

Journalism curriculum, B.A.

Courses in journalism, including news writing, feature writing, copy editing, and advertising, are designed to provide a fundamental background for work on either daily or weekly newspapers.

## MATHEMATICS

Mathematics curriculum, B.S.; M.S.

The major in mathematics gives basic preparation for the position of statistical research worker in business, industry, agriculture, or government service, for work as arithmetical and mathematical clerk in business or government offices, for service as a navigator in marine or aviation industries, for the vocation of statistical analyst, and for teaching in high school or college.

## MUSIC

Music Major curriculum, B.A.
Bachelor of Music curriculum, B.M.
Sacred Music Curriculum, B.M.
Students who complete the curricula in music may enter

the fields of music teaching, music merchandising, church music (organist, choir director, piano accompanist, song leader), private studio teaching, teaching music in schools, and professional performance.

PHYSICS

Physics curriculum, B.S. in Physics; M.S.

Majors in the field of physics have opportunities of employment with various government bureaus and laboratories, in teaching positions, and in commercial applications of nuclear physics.

SOCIAL SCIENCES

Geography curriculum, B.A.
Geology curriculum, B.S.
History curriculum, B.A.
Political Science curriculum, B.A.
Pre-professional curriculum in Social Welfare, B.A.
Sociology curriculum, B.A.

*Geography*: This curriculum prepares students for teaching and for positions with the federal government as a geographer.

*Geology*: the course of study in geology trains for employment in the petroleum industry and mining industry, for service in federal and state geological surveys, and for work in a technical advisory capacity on engineering projects.

*History*: the history curriculum provides basic training for many occupations, as law, the ministry, and teaching.

*Political Science*: a major in political science prepares for various careers in law, diplomacy, foreign service, and many types of government work.

*Sociology*: the sociology curriculum affords basic preparation for ministers, social welfare workers, civil service employees, and leaders of community life.

SPEECH

Speech curriculum, B.A.

Curricula in speech train young people for the profession of acting on stage or screen, coaching debate, teaching, directing school or community theaters, or serving in many capacities in the radio and television industries.

ZOOLOGY

Zoology curriculum, B.S.; M.S.
Medical Laboratory Technician's curriculum, B.S. in Medical Technology.

The curricula in the Department of Zoology prepare students for medical technique work in clinics and hospitals; for positions as naturalists; for occupations in agricultural experimental stations, especially in the field of entomology; for service in wildlife conservation and sanitation; for research in government and industry; for positions in biological supply houses, and for teaching.

# SCHOOL OF BUSINESS ADMINISTRATION

*BURTON R. RISINGER, Dean*

For complete information on the School of Business Administration, see the special bulletin of the School. It may be obtained by writing to the dean of the School, whose name appears above, or to the registrar, Miss Mabel May.

The School of Business Administration is accredited as a full member of the American Association of Collegiate Schools of Business, an organization made up of the outstanding collegiate schools of business administration of the United States. The general accreditation of Louisiana Polytechnic Institute by the Southern Association of Colleges and Secondary Schools covers the School of Business Administration as one of the six schools of the Institution. The special accreditation of the School of Business Administration covers all of its departments and curricula.

It is the purpose of the School to offer a high level of education encompassing general education, broad business education, and adequate specialization in any of several fields. Already the demand for graduates of collegiate schools of business outstrips the supply in the United States, and it is expected that the continued business and industrial growth of this country will create a far greater need for such graduates. The business leaders and executives of tomorrow are being chosen from today's graduates of collegiate schools of business. Therefore, it is our aim adequately to prepare our students educationally for proprietary, professional or executive positions of leadership in the business and industrial world. One student out of seven (one male student out of five) enrolled in colleges and universities in the United States is taking business.

The School of Business Administration is divided into four academic departments Each of these departments has one or more curricula. The departments and the curricular offerings are given below.

DEPARTMENT OF ACCOUNTING. The Department of Accounting offers a four-year curriculum in Accounting leading to the Bachelor of Science degree. The Department also offers a special post-graduate curriculum in Professional Accounting. This curriculum leads to the Bachelor of Accounting degree.

The Accounting curriculum prepares students for professional accounting positions in business, government, and in public accounting work. It also gives the basic instruction

for those who are interested in teaching accounting at the college level. Accounting graduates command excellent salaries and there has been a greater demand for our accounting graduates than we have been able to supply. Accounting is now the second largest profession for men.

DEPARTMENT OF BUSINESS. The Department of Business offers the Business Administration Curriculum. In this curriculum, students have a choice of several options, majors, or areas of specialization, as follows: General Business Administration; Business Management; Marketing and Merchandising; Industrial Management; Personnel and Public Relations; Real Estate and Insurance; Statistics; Economics; Finance; Business Pre-Law Option I and Business Pre-Law Option II and Special. In the Business Pre-Law Option I, the student goes to law school after three years at Louisiana Tech; and in Business Pre-Law Option II, the Student finishes the four years before entering law school. The various options in this curriculum prepare the student for entering the business world as a specialist in the area indicate by the name of the option. Overall, the curriculum is designed to give students the basic foundation on which to build experience and to move into business ownership or into an executive position in a business enterprise.

DEPARTMENT OF ECONOMICS AND FINANCE. The Department of Economics offers a curriculum in Economics with a minor either in business or in liberal arts. This curriculum is designed to train students for service in governmental or industrial positions. A knowledge of Economics is of great importance today and there is an increasing demand for graduates in the field. The Finance and Real Estate and Insurance options in the Business Administration curriculum are offered by this department.

DEPARTMENT OF OFFICE ADMINISTRATION: The Department of Office Administration offers a four-year curriculum in Office Administration leading to the Bachelor of Science degree and a two-year curriculum leading to a diploma. These curricula provide technical training for positions in business and government. The four-year curriculum especially gives the student a broad business background as well as secretarial skills. Both curricula are intended to give the student the necessary basic vocabulary and knowledge of business organization which is increasingly necessary for private secretaries. There is a tremendous demand for our secretarial graduates. In fact, there is a critical shortage of secretaries throughout the United States. Additional secretarial students are urgently needed to help satisfy the increasing need for college-trained secretaries.

DEPARTMENT OF RESEARCH. The Department of Research was organized to encourage and promote research by members of the faculty of the School of Business Administration and to disseminate the knowledge obtained by publication in appropriate magazines and monographs. Its administration is under the direction of the head of the department, who is the chairman of the Committee on Business and Economic Research.

# SCHOOL OF EDUCATION

*CLIFFORD T. WOODARD, Dean*

The School of Education has for its objective the preparation of teachers to fill the many positions in the schools of Louisiana. Teachers are prepared both for the elementary and high school. Two undergraduate degrees are awarded, depending on the curriculum pursued. The degree of Bachelor of Science is granted to those finishing the curricula in Business Education, Mathematics, Science, and Physical Education. Students finishing all other undergraduate curricula receive the degree of Bachelor of Arts. Except in the Music and Elementary Grades Curricula the student meets the teacher certification requirements in a second and often in a third field of specialization.

At the elementary level opportunity is offered for teachers to prepare to teach in all of the elementary grades as well as in the nursery school and the kindergarten.

For high school teachers, curricula are offered with specialization in Art, Business Education, English, French, Health and Physical Education, Mathematics, Music, Science, Social Science, Spanish, and Speech. In each of these curricula the student selects a minor subject, in many cases two or more, in which he completes the requirements for certification. One curriculum in addition to those listed above fits the student for certification in both the elementary and secondary fields.

Students who are preparing to teach in the elementary grades will find available on the campus a well equipped and officered elementary school. In addition, approved schools located in the City of Ruston will be used as student teaching facilities. The work of these schools conforms with the course of study of the elementary school as prescribed by the State Department of Education of Louisiana. Applicants for student teaching must be approved by the Director of Student Teaching and the Dean of the School of Education.

For students who are preparing to teach in the high school, arrangements have been made for student teaching to be done in the Ruston High School.

The School of Education offers the following curricula leading to the Master of Arts and Master of Science Degrees: The Master of Arts Degree in Education with majors in Art Education, Elementary Education, English Education, Music Education, Speech Education, and Social Science Education; The Master of Science Degree in Education with majors in Biology Education, Business Education, Chemistry Education, Mathematics Education, Physical Education and Physics Education.

# SCHOOL OF ENGINEERING

*BEN T. BOGARD, Dean*

## GENERAL

The School of Engineering occupies two buildings on the Louisiana Tech campus. Bogard Hall houses the administrative offices, classrooms, and laboratories for chemical, civil, electrical, general, mechanical, petroleum and geological engineering. Some of the facilities of the Engineering Research Department and the Mathematics Department are also located in Bogard Hall. The Engineering Annex houses additional offices, laboratories, and the Louisiana Tech Nuclear Center. The School of Engineering offers courses of instruction and study for the primary purpose of preparing young men for entry into the engineering profession. The courses of study provide training in mathematics, the engineering sciences, and the physical sciences in their application to the solution of technological problems. The work is at a professional engineering level and does not consist of training courses for skilled trades.

The degree granted upon completion of the required courses of study is one or more of the following:

BACHELOR OF SCIENCE in: Chemical Engineering; Civil Engineering; Electrical Engineering; Geological Engineering; Industrial Engineering; Mechanical Engineering; and Petroleum Engineering.

MASTER OF SCIENCE in: Chemical Engineering; Civil Engineering; Electrical Engineering; Geological Engineering; Mechanical Engineering; and Petroleum Engineering.

The curricula of chemical, civil, electrical, mechanical, petroleum and geological engineering enjoy accreditation by the Engineers' Council for Professional Development. The graduates of any of these engineering curricula are prepared for entrance into graduate school for advanced study.

In addition to the professional engineering curricula above, a two-year Technical Aid Curriculum is offered by the School of Engineering. The student successfully completing this two-year curriculum is awarded a certificate.

## GENERAL ENGINEERING

The department of General Engineering administers the curriculum of Industrial Engineering, the Technical Aid Curriculum, and those engineering courses that are not identified with a particular branch of engineering.

### INDUSTRIAL ENGINEERING

The aim of the Industrial Engineering Curriculum is to provide a strong basic training in engineering plus know-

ledge of human behavior, economics, accounting, and management. Industrial Engineering deals with the efficient management of manpower, machines, materials, and money in industry. The industrial engineer plans better production methods, establishes performance standards, provides training programs, assists management in negotiating labor contracts, develops accurate cost control methods, and participates in operations research.

The curriculum is closely coordinated with the School of Business. It is intended that this arrangement provide a strong background in business in addition to a thorough training in industrial engineering technology.

#### TECHNICAL AID CURRICULUM

The two-year technical aid curriculum is planned for those students who, for one reason or another, can attend college for only four semesters. It provides basic training in engineering, English, mathematics, science, and shop work. The graduate of this curriculum comes under the general classification of engineering support personnel and may find employment in construction, production, research, and design as an assistant to a professional engineer. Upon successful completion of this curriculum the student is awarded a certificate.

## CHEMICAL ENGINEERING

Chemical Engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of materials are involved. The work of the chemical engineer is to design, construct, and operate the equipment and plants in which these changes are applied. A graduate in chemical engineering may enter industrial work as an engineer in the production department of a chemical plant, or in research and development laboratories of such industries. A five-year curriculum leading to the degree of Bachelor of Science in Chemical Engineering, with a minor in Nuclear Technology, is also offered.

## CIVIL ENGINEERING

The field of civil engineering, once defined as including all branches of engineering other than military, has come to include primarily the professional aspects of construction. The field of construction is shared by civil engineering and architecture, particularly in the case of construction of large buildings. Civil engineering is still a broad, comprehensive field encompassing construction projects in air transportation (airports), highways, railroads, hydraulics, waterways

and harbors, irrigation and drainage, pipelines (cross country), power (hydro-electric), sanitary engineering, and related studies and investigations in soil mechanics, foundations, structures, surveying, and mapping. The civil engineer conducts investigations, conceives the design for these projects, supervises the preparation of plans, and supervises the construction.

## ELECTRICAL ENGINEERING

Electrical Engineering is that branch of the engineering profession which is concerned with research, development, design, operation and improvement of electrical and electronic machines and equipment. It deals with the theory and practice of the generation, transmission, and utilization of electrical energy. The professional electrical engineer will find a wide variety of fields in which to practice. A partial list includes: engineering research in power generation and use; electronics, including radio, television, radar; engineering development of power apparatus, communications and control equipment; engineering design of power machinery, electronic equipment and servomechanisms; engineering in manufacturing processes; application engineering and sales engineering.

## MECHANICAL ENGINEERING

Mechanical Engineering can be described as a profession which is concerned with transforming energy into a useful form, with the conception, design, operation and servicing of the processes and machines used in these transformations, and with the processes and machines which are used for manufacturing and for transportation. The curriculum is designed to give the student a broad knowledge of the basic fundamentals of science, mathematics, and engineering and training in the use of these fundamentals. Mechanical Engineering is a part of almost all areas of engineering endeavor, and the graduate has a broad latitude in choosing his life work. A partial list of areas or industries in which mechanical engineers are employed include: Aeronautical; electric power generation; paper; nuclear; chemical; instrumentation and controls; air conditioning; production, transmission, and refining of petroleum products; equipment manufacture; and various agencies of the federal government including those responsible for missiles and the space program.

## PETROLEUM AND GEOLOGICAL ENGINEERING

### PETROLEUM ENGINEERING

Petroleum Engineering deals with problems of development, production, measurement, transportation, and storage

of petroleum hydrocarbons. The curriculum is designed to prepare the student upon graduation for useful employment in some phase of the oil producing industry.

### GEOLOGICAL ENGINEERING

Geological Engineering consists of the application of basic engineering and geological principles necessary to undertake preliminary investigations of transportation systems, dam sites and building constructions and the exploration of metallic, nonmetallic and mineral fuels deposits. The petroleum industry offers a high proportion of the opportunities for geological employment, but openings extend into many fields. Excellent possibilities are offered in mining, in the clay industry, in the exploration of the solid fuels, and in water supply. The federal and state surveys employ many geologists in a variety of capacities.

## ENGINEERING RESEARCH

The Department of Engineering Research was created in 1953 in recognition of the importance of fundamental and applied research to the world of science and of the importance of the professional development of a competent faculty through the performance of research. The purpose of the department is to encourage, promote, and facilitate the performance of original research by members of the faculty of the School of Engineering and to expedite in every way possible the dissemination of the knowledge thus gained through publication in the appropriate media. The activities of the department are directed by the Research Coordinating Committee composed of the Engineering Academic Department Heads with the Head of Engineering Research serving as Chairman of the group. This committee is responsible to the Dean of the School of Engineering.

The financial support of research projects is derived from two primary sources: (a) the operating budget of the Research Department, which in some cases merely provides continuity, and (b) sponsorship of a project by an interested outside agency, usually governmental or industrial.

In addition to the advantages and opportunities afforded faculty members for development, a very important opportunity is provided qualified students to assist in these projects thus gaining valuable training as well as profitable remuneration for their services.

## CO-OPERATIVE PLAN

The School of Engineering is cooperating with certain industrial firms in a plan of alternate periods of work and college study for students in engineering. For most effective

work in engineering, the graduate not only must have a sound education in mathematics, the physical sciences, and the engineering sciences; but also must be acquainted with business principles and industrial practices. The Co-operative Plan provides one of the best methods for integrating technical theory and practical industrial experience in a five-year educational program. Another important purpose for instituting the Co-op Plan is to give promising engineering students who find it financially difficult to complete their formal education an opportunity to earn money that can pay a large part, or possibly all, of their college expenses.

## JOINT CURRICULA OFFERED BY THE SCHOOL OF ENGINEERING AND SCHOOL OF BUSINESS ADMINISTRATION

The School of Engineering in cooperation with the School of Business Administration has arranged four curricula which will enable students to obtain a degree in one of four branches of Engineering and a degree in Business Administration. This program of study requires five and a half years for completion, at which time the two degrees are awarded. These curricula are jointly administered by the two schools. The four departments of the School of Engineering participating in the joint curricula program are Chemical, Civil, Electrical, and Mechanical.

A separate bulletin concerning the School of Engineering will be sent upon request.

# SCHOOL OF HOME ECONOMICS

*ALICE MILLETT GRAHAM, Dean*

*HELEN GRAHAM, Dean Emeritus*

Louisiana Polytechnic Institute has much to offer to the student who plans to major in home economics. The rating of the School of Home Economics is excellent. Its prestige is based upon its history and the success of its graduates. Louisiana Tech was the first college in the State and one of the first in the entire South to offer home economics.

Excellent laboratory facilities are available for courses requiring laboratory work. Those for foods, nutrition, textiles, clothing, and household equipment are located in a wing of the new Carson-Taylor Hall. The nursery school, built especially for observation, is used as a laboratory for courses in child development. The Anna Idtse Home Management House serves as a residence for senior students enrolled in the home management courses.

Certain core courses not limited to the field of home economics are required of all home economics majors. The liberal arts courses are chosen to provide a broad cultural education while those in home economics provide a foundation for specialization and a background for family life.

In addition to the core courses, opportunity for specialization in the various areas of home economics is provided by curricula planned to meet the high standards of the profession. Two degrees are granted by the School of Home Economics to those who complete undergraduate curricula.

Bachelor of Arts in Home Economics

Bachelor of Science in Home Economics

The degree of Bachelor of Arts in Home Economics is granted to graduates who major in Child Development, Clothing Art, Family Life Education, and Home Service.

The degree of Bachelor of Science in Home Economics is granted to those who complete either the Institution Management Curriculum or the Teacher Training Curriculum

The Institution Management Curriculum meets the requirements of the American Dietetic Association. Graduates are eligible for appointment to internship in hospitals approved by the American Dietetic Association.

The Teacher Training Curriculum meets the certification

requirements of the State Board of Education. Graduates are qualified to teach in high schools offering vocational home economics as well as in those offering non vocational home economics. The Teacher Training program of the School of Home Economics is approved to receive federal funds.

Graduates of the School of Home Economics are employed in excellent positions in Louisiana and elsewhere. In the field of education graduates are teaching in vocational and non vocational high schools and in colleges and universities. Some are also employed as nursery school teachers and lunchroom supervisors. Many have become home demonstration agents with the United States Department of Agriculture. Dietitians are employed by hospitals and other institutions having foods services. Recently many graduates have entered the home services field as home economists with utility companies. Home Economics graduates also enter graduate schools, where they are found to be well qualified for advanced study.

The degree of master of science is granted to those who complete the graduate curriculum in home economics education. An applicant for admission to the graduate program must have a bachelor's degree in home economics with a major in home economics education. This curriculum is planned for those who teach in secondary schools.

Complete information concerning the School of Home Economics may be obtained by writing to the Dean of Home Economics or to the Registrar.

# DEPARTMENT OF AIR SCIENCE

LT COLONEL JACK A. MURPHY, PROFESSOR OF AIR SCIENCE (PAS)

ASSISTANT PROFESSORS: MAJOR JAMES B. SANFORD, CAPTAIN HOYT Q. FARQUHAR, CAPTAIN WILLIAM C. LOCKETT, JR., AND CAPTAIN GLEN N. MADDOX; ADMINISTRATIVE ASSISTANTS: T-SGT ERIE L. WALKER, T-SGT MAX BLEDSOE, S-SGT ARTHUR B. SHERBOURN, AND A /1C THOMAS M. DUHON; MR. GERALD D. SANDERSON, INSTITUTIONAL PROPERTY CUSTODIAN.

## MISSION OF THE AIR FORCE ROTC

The mission of the AFROTC is to develop in selected college students those qualities of leadership and other attributes essential to their progressive advancement in positions of increasing responsibility as commissioned officers in the United States Air Force.

## PURPOSE AND OBJECTIVES

The AFROTC program is the major source of officers for the Air Force. The purpose and objectives of the program are these:

1. Basic Course: The first two years of the AFROTC program are designed to provide basic understandings about air power, its implications in the world today, and concepts of its place in the world of tomorrow. The basic course is referred to as education for air age citizenship. In it foundations are laid for leadership, officership, and citizenship in the "space" age.

2. Advanced Course: The last two years of Air Science are designed primarily to provide further knowledge and skills specifically needed by cadets who are seeking Air Force Commissions. In the third year emphasis is placed on junior executive type training, while the fourth year is devoted to more specialized skills needed by Air Force officers.

## GENERAL INFORMATION

The AFROTC program is a four year program divided into two parts. The "basic course" normally enrolls Freshmen the first year and Sophomores the second year. The "advanced course" normally includes Juniors the first year and Seniors the second year with 4 weeks of summer training at an Air Force Base, normally during the summer months between the Junior and Senior years.

Full college credit is given for AFROTC courses taken; however, all this credit does not necessarily count as satisfying graduation requirements. In general, basic AFROTC credits count one semester hour per course in lieu of the physical education requirement, except in the School of

Education, where physical education is required for teacher certification. Advanced AFROTC is treated as electives, depending on the policy of each school. Students should consult with the dean of their particular school to determine what credit will be allowed. Each cadet is assessed $3.50 for the cadet fund which is used to finance certain cadet activiites.

## ORGANIZATIONS AND ACTIVITIES

In addition to the regular Cadet Corps which performs locally or elsewhere on invitation, the following functions are also sponsored by the AFROTC:

*Arnold Air Society:* The Emmett O'Donnell Squadron of the Arnold Air Society is an organization dedicated to promoting a better understanding of the role of airpower in the Air Age. This is a national honorary society limited to selected basic and advanced cadets.

*Cadet Band:* The Cadet Band operates as a distinct unit during drill activities, parades, reviews and other military and civil functions in Louisiana.

*Drill Team:* The precision drill team is organized and commanded entirely by the cadets and performs as a separate unit much the same as the band.

*Rifle Team:* The Department of Air Science sponsors an AFROTC Rifle Team and a Girls' Rifle Team. Both teams fire postal and shoulder to shoulder matches with similiar organizations. The rifle teams also enjoy occasional out of town and out of state trips.

*Orientation Flights and Air Base Visitations:* Cadets are afforded opportunities to fly in various types of military aircraft for purpose of orientation and familiarization. Air Base visitations are also offered and encouraged.

*Flight Instruction Program:* Senior cadets planning to enter pilot training are required to pursue the Flight Instruction Program. The program affords cadets the opportunity to solo in light aircraft and obtain a private flying license through a local civilian flying school at government expense.

*Formal Military Ball:* Cadets sponsor a formal Military Ball annually for the members of the Corps and their invited guests.

## REQUIREMENTS FOR ADMISSION

### BASIC COURSE

Enrollment in the AFROTC basic course requires that students:

1. Be citizens of the United States.

2. Be not less than 14 years of age. All requirements for appointment as a comissioned officer (including advanced course) must be completed prior to reaching age 26½ if programmed for flying training or 28 years if programmed for other than flying training.

3. Be physically qualified for military service, or will be at time of reaching military age.

4. Be of good moral character.

5. Sign an oath of loyalty to the United States.

6. Be accepted by the college as a regularly enrolled student.

7. Successfully complete such general survey or screening tests as may be conducted by the college and the Professor of Air Science.

8. Veterans will be phased into AFROTC in accordance with their college standing and at the discretion of the Professor of Air Science.

ADVANCED COURSE

Students are selected for the advanced course on a competitive basis. In addition to those requirements mentioned for the basic course, entrance into the advanced course requires that students:

1. Be not less than 16 years of age. Meet mental and physical requirements for commissioning.

2. Have completed the two year basic course or equivalent. Entrance into the advanced course will normally be phased so that completion of the advanced course and the awarding of the degree will coincide.

3. Have completed 60 semester hours toward a degree and attained a "C" average against all courses pursued.

4. Appear before the AFROTC Selection Board and be recommended by the President of the College and the Professor of Air Science.

MONETARY ALLOWANCE WHILE PURSUING ADVANCED COURSE

All students enrolled in the advanced course are paid a subsistence allowance. The rate at present is 90 cents per day. Students receive approximately $78.00 plus travel pay for attending the four week Summer Training Unit. All uniforms and text books used in training, basic and advanced, are furnished by Louisiana Tech and the Air Force. This amounts to a total of over $800.00 during the two year period.

## DRAFT DEFERMENT

AFROTC Cadets may be deferred from the Selective Service Draft while enrolled in the basic course. Cadets in the advanced course sign a Draft Deferment Agreement which in turn requires them to serve as commissioned officers for a stipulated period after graduation.

## REQUIREMENTS FOR COMMISSION

Upon completing the AFROTC advanced course and receiving a baccalaureate degree, cadets are normally offered a commission as a Second Lieutenant, United States Air Force Reserve. It should not be presumed, however, that any member of the advanced course accrues a vested right to a commission by virtue of such membership alone.

## DISTINGUISHED AIR FORCE ROTC GRADUATES

Those outstanding AFROTC cadets designated by the Professor of Air Science as Distinguished AFROTC students have an excellent chance, and may apply, for a Regular Air Force commission prior to graduation.

## DESCRIPTION OF AIR SCIENCE COURSES

**405: First Year Basic Air Force ROTC.** 3-0-1* In lieu of AFROTC lecture periods during this semester, a selected college course will be accepted toward completion of the Air Science requirements. The course designated will be taken from the areas of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences. Three hours will be spent in leadership laboratory which is designed to develop to the maximum each cadet's leadership potential and his knowledge of basic military fundamentals (Fall semester).

**406: First Year Basic Air Force ROTC.** 2-2-2. The Military Instrument of National Security points out the important role of the Army, Navy, and Air Force and shows how each contributes to our integral approach to national security; Elements and Potentials of Air Power: Presents a comprehensive picture of the development and implications of the major elements of air power. Military Aviation, Civil Aviation, The Aircraft Industry, and Research and Development; Evolution of Aerial Warfare: Treatment of the basic principles of War, present ground and naval warfare and air warfare from its inception to the present time; Air Vehicles and Principles of Flight: includes elementary principles of aerodynamics, propulsion, and guidance of manned and unmanned vehicles in the atmosphere and in space; Continuation of leadership lab (Spring semester).

**505: Second Year Basic Air Force ROTC.** 2-2-2. Professional Opportunities in the USAF: covers all career opportunities such as pay and allowances, personal benefits, educational opportunities and intangible benefits; Elements of Aerial Warfare: designed to give an understanding of the interdependent elements encountered in

* First number, Laboratory hours per week; second, lecture hours per week; third, credit value.

aerospace operations, covering targets, weapons and delivery vehicles; Employment of Air Forces: stress will be placed on the offensive role of the Air Force in general and small wars and on defensive employment; Space Operations: covers space environment, space vehicles, human and technical factors, current programs, future possibilities and military implications; Continuation of leadership lab with emphasis on noncommissioned officer training. (Fall semester)

506: **Second Year Basic Air Force ROTC.** 2-0-1. Accept college course which contributes to the professional education of an Air Force Officer. This course will be selected from the same areas listed in Air Science 405 above. Continuation of Air Science 505 leadership lab. (Spring semester)

605: **First Year Advanced Air Force ROTC.** 1-4-3. Prerequisite: Basic ROTC or equivalent. The Air Force commander and his staff: a general treatment of the responsibilities, organization and functions of command and staff; Air Force base functions: designed to acquaint one with the Air Force community, its functions and organization; Creative Problem Solving: gives techniques and practice in ability to produce ideas utilizing "brainstorming" and other methods; Communicating in the Air Force: points out the importance of efficient writing, speaking, reading and listening skills and assists one in developing them; Instructing in the Air Force: presents the various methods of teaching, giving demonstrations and practice; Leadership lab with emphasis on cadet officer training (Fall semester).

606: **First Year Advanced Air Force ROTC.** 1-4-3. Prerequisite: Air Science 605. The Military Justice System: the purpose is to give an understanding of military justice and your status under it; Principles of Leadership and Management: a study of the complex mechanism of human behavior, a step-by-step development of human motivation and a series of human relations problems which an Air Force officer may encounter; Briefing for Summer Training: summary of what will be encountered at the summer training unit. Continuation of Air Science 605 leadership lab (Spring semester).

705: **Second Year Advanced Air Force ROTC.** 1-4-3. Prerequisite: Air Science 606. Weather and Navigation: a study of temperature, pressure., air masses, precipitation, weather charts, navigational charts, and dead reckoning navigation; International Relations: devoted to the study of major factors underlying international tensions, balance of power concepts, nationalism, imperialism, communism, the United Nations and regional security organizations; Leadership lab with emphasis on the command and staff function. (Fall semester).

706: **Second Year Advanced Air Force ROTC.** 1-4-3. Prerequisite: Air Science 705. Military Aspects of World Political Geography: study of maps and charts, factors of power and geographic influences upon political problems with a geopolitical analysis of strategic areas; The Air Force Officer: material is presented to help the cadet make a rapid and effective adjustment to active duty as an officer in the United States Air Force; Continuation of Air Science 705 leadership lab. (Spring semester)

# SCHOOL

# OF

# AGRICULTURE AND FORESTRY


M. HAYNE FOLK, JR., DEAN

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* For information concerning the following, please refer to the General Catalog for Louisiana Polytechnic Institute: Location of College, Buildings and Grounds, Oragnization of College, Rating, Sessions, Degrees, Courses of College Instruction, Veterans' Education, Admission Requirements, Registration, Graduation Requirements, Expenses, Examinations, Credit Examinations, System of Grading, Quality Points, Honors, Conduct and Discipline, Financial Aid, Self-Help, Guidance, Orientation, Student Organizations, Student Publications, Athletics, Placement and Service, Miscellaneous.

# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Wed. May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# OFFICERS OF INSTRUCTION

## HEADS OF DEPARTMENTS

AGRICULTURAL ENGINEERING: John J. McDow—B.S., University of Tennessee; M.S., Ph.D., Michigan State University; Registered P.E., Louisiana. (1951)

AGRONOMY AND HORTICULTURE: Charles G. Hobgood —B.S., M.S., Louisiana State University. (1941)

ANIMAL INDUSTRY: Hal B. Barker—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Alabama Polytechnic Institute. (1949)

BOTANY AND BACTERIOLOGY: M. Hayne Folk, Jr.— B.S., Clemson Agricultural College; M.S., Louisiana State University. (1926)

FORESTRY: Lloyd P. Blackwell—B.A., Lynchburg College; M.F., Yale University. (1946)

## PROFESSORS

Hal B. Barker, *Dairying*—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Alabama Polytechnic Institute. (1949)

Frederick E. Beckett, *Agricultural Engineering*—B.S., Mississippi State College; M.S., Ph.D., Oklahoma State University. Registered P. E., Louisiana. (1952)

Lloyd P. Blackwell, *Forestry*—B.A. Lynchburg College; M.F., Yale University. (1946)

Donald L. Fernholz, *Botany*—B.A., Milton College; M.S., University of Wisconsin; Ph.D., Ohio State University. (1949)

M. Hayne Folk, Jr., *Botany*—B.S., Clemson Agricultural College; M.S., Louisiana State University. (1926)

Charles G. Hobgood, *Agronomy*—B.S., M.S., Louisiana State University. (1941)

John J. McDow, *Agricultural Engineering*—B.S., University of Tennessee; M.S., Ph.D., Michigan State University; Registered P.E., Louisiana. (1951)

*John A. Moore, *Botany*—B.S., Butler University; M.S., State College of Washington; Ph.D., Washington University. (1947)

Otto Wasmer, Jr., *Botany*—B.S., University of Arkansas; M.A., George Peabody College; Ph.D., University of Nebraska. (1953)

* On leave.

John A. Wright, *Horticulture*—B.S., Tennessee Polytechnic Institute; M.S., Iowa State College; Ph.D., Louisiana State University. (1953)

## ASSOCIATE PROFESSORS

Glenn E. Clark, *Animal Husbandry*—B.S., Louisiana State University; M.S., Agricultural and Mechanical College of Texas. (1952)

Odie LeRoy Fitzgerald, *Forestry*—B.S., Louisiana Polytechnic Institute; M.F., Duke University. (1951)

Benjamin F. Grafton, *Agronomy*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1947-1949) (1952)

Winston P. Hackbarth, *Botany*—B.A., State University of Iowa; B.S., Idaho State College; M.S., University of Denver; Ph.D., Iowa State College. (1959)

John Kuprionis, *Forestry*—B.S.F., College of Agriculture in Lithuania; M.F., Michigan State University. (1952)

Lowell A. Logan, *Botany*—B.S., Henderson State Teachers College; M.S., University of Arkansas; Ph.D., University of Missouri. (1960)

Dallas D. Lutes, *Botany*—B.S., Louisiana Polytechnic Institute; Ph.D., University of Missouri. (1955)

James W. Patterson, *Veterinary Science.* (Part-time)—D.V.M., Alabama Polytechnic Institute. (1953)

Ernest J. Russell, *Forestry*—B.A., Louisiana Polytechnic Institute; M.F., Louisiana State University. (1947)

## ASSISTANT PROFESSORS

Edward R. Andrulot, *Forestry*—B.S.F., University of Michigan; M.S., Louisiana Polytechnic Institute. (1956)

*Ernest W. Bryant, *Dairying*—B.S., Southeastern Louisiana College; M.S., Louisiana State University. (1956)

Charles W. Wilson, *Agricultural Engineering*—B.S., Clemson Agricultural College; M.S., University of Georgia. (1956)

James Henry Zeagler, *Forestry*—B.S., Louisiana Polytechnic Institute; M.F., Louisiana State University. (1961)

## INSTRUCTOR

Albert W. Lazarus, *Dairying*—B.S., Louisiana Polytechnic Institute. (1961)

*On leave for study.

# SCHOOL OF AGRICULTURE AND FORESTRY

*M. HAYNE FOLK, JR., Dean*

## AIM

The aim of the School of Agriculture and Forestry is to give the students a scientific knowledge of the world in which we live, stressing the all-important role of animals and plants in the economy of nature, and to broaden and deepen the students' understanding and appreciation of our environment, thus preparing them for professional careers and for a happier, more complete, satisfying, and productive living.

Instruction in the School is offered (1) to provide the students with a firm foundation of the pure sciences and their various applications; (2) to give them a broad, general education or a more specialized, technical one; and (3) to prepare them for leadership in the cultural and practical affairs of life.

## ORGANIZATION AND CURRICULA

The School of Agriculture and Forestry is organized into the Department of Agricultural Engineering, the Department of Agronomy and Horticulture, the Department of Animal Industry, the Department of Botany and Bacteriology, and the Department of Forestry. It offers, in addition to the two-year Pre-Veterinary Medicine Curriculum, eleven four-year curricula leading to the degree of Bachelor of Science. These curricula are in:

GENERAL AGRICULTURE
AGRICULTURAL ENGINEERING
AGRONOMY
ANIMAL HUSBANDRY
BOTANY
DAIRY MANUFACTURING
DAIRY PRODUCTION
FORESTRY
HORTICULTURE
MICROBIOLOGY (BACTERIOLOGY)
WILDLIFE CONSERVATION AND MANAGEMENT

The curricula are designed to furnish a well-balanced educational program based on the cultural needs, the practical interests, and the citizenship responsibilities of young men and women. They offer essential instruction in the sciences on which agricultural principles are based, namely, Botany, Bacteriology, Chemistry, and Zoology, and in the humanistic and social studies, as well as a comprehensive education in one or more of the special fields of the School.

The basic courses which are offered in the different fields during the first two years familiarize the student with the various phases of these fields and afford a foundation for the final decision in regard to his major course of study. By the beginning of the junior year, the student is required to major in a field of study and to choose his minor course of study, subject to the approval of the head of the department of his major subject and the Dean of the School of Agriculture and Forestry. Electives in all curricula of the School are to be chosen with the approval of the head of the department of the student's major subject and the Dean of the School. All students in the School are required to take a one semester hour course in Americanism versus Communism before graduation.

The Master of Science degree is offered in the fields of Agricultural Engineering, Bacteriology, and Botany.

## SUBJECTS OF INSTRUCTION

The subjects of instruction offered by the School of Agriculture and Forestry are Agricultural Engineering, Agronomy, Animal Husbandry, Bacteriology, Botany, Dairying, Forestry, Horticulture, Poultry Husbandry, and Veterinary Science.

## EDUCATION AND OPPORTUNITIES

Education is provided in the School of Agriculture and Forestry to train young men and women in the improvements in the production of plants and animals, in the conservation of the soil, and in all other things that augment the comforts of life and raise man's standard of living.

Graduates are prepared for farm management; landscape gardening; forest management; work with paper mill and lumber industries; work in experiment stations; conservation activities; positions in federal bureaus, notably the Bureau of Plant Industry, and in other departments of the federal government, such as the United States Department of Agriculture, the United States Soil Conservation Service, the National Park Service, and the Forest Service; work in the State Departments of Agriculture; commercial and industrial positions in business, such as marketing farm and forest products, dairy manufactures, the seed and feed business, the farm implement business, the fertilizer business; positions as specialists for railroads, banks, and development companies; service in farmers' organizations; and for teaching Botany, Bacteriology, Agricultural Engineering, and the technical subjects covering the main divisions of agriculture, including Agronomy, Animal Husban-

dry, Dairying, Forestry, and Horticulture.

As our agricultural industry, which is the largest and most extremely varied industry in the world, has become recognized as a big food and fiber production business, calling for greater efficiency in the production of larger supplies of food and fiber of higher quality, the opportunities open to well-educated and able graduates are now greater than ever before.

## FACILITIES

The main college campus maintains adequate classrooms, laboratories, libraries, and equipment for effective instruction in the basic sciences and in the other cultural subjects which are required in the various curricula of the five departments in the School of Agriculture and Forestry, whereas the farm campus provides the facilities which are devoted specifically to instruction and demonstrational work in the agricultural sciences.

Located on the farm campus are Reese Hall, which houses offices, a library, an auditorium, classrooms, well-equipped laboratories, and rest rooms; the new and very modern dairy processing plant, which is equipped for pasteurizing and bottling milk, cheese making, butter making, ice cream making, manufacturing other dairy products, and refrigeration; the Agricultural Engineering Building, with its enlarged facilities; the Farm Supervisor's Home; and the new and well-equipped greenhouses.

On the college farm are found the dairy and livestock barns; the silos; the livestock judging pavilion; the poultry plant, consisting of an incubator house and service rooms, colony brooder houses, range growing houses, experimental feeding houses, a breeding house, and laying houses; the potato curing house; the freezer locker plants; the farm machinery buildings; the irrigation systems; the sawmill; the dry kiln; the wood-testing laboratory; the weather station; the fire tower; the nurseries; the orchards and gardens; and the pastures, fields, and forests.

For instructional purposes in Animal Husbandry, in Dairying, in Poultry Husbandry, and in Veterinary Science, registered livestock are maintained as follows: a herd of dairy cattle, representing the Jersey and the Holstein-Friesian breeds; a herd of beef cattle, representing the Aberdeen Angus and the Hereford breeds; swine, representing the Landrace and the Poland China, breeds; flocks of Hampshire and Sufflok sheep; and flocks of White Leghorn, New Hampsire, and White Rock chickens and Beltsville turkeys.

Nurseries, botanical gardens, orchards, vegetable gardens, flower gardens, general agronomic crops, pastures, and forest trees, representing practically all of the important forest types of the South, are maintained for field work and research in Agronomy, Botany, Forestry, Horticulture, and Wildlife.

Located on a site containing a wide variety of habitats which are suitable for practically all plants that grow in the Southern United States, the Louisiana Tech Arboretum and Botanical Gardens serves as an ideal outdoor laboratory for the plant science departments in the School. Many different species of plants are now growing in the Arboretum and Botanical Gardens.

## GRADUATE DEGREES

The School of Agriculture and Forestry offers the degree of Master of Science in Agricultural Engineering, in Botany, and in Microbiology.

The requirements for the Master of Science degree in Agricultural Engineering, in Botany, and in Microbiology may be found under "Graduate Curricula", on page 22.

# CURRICULA

## GENERAL AGRICULTURE*

### (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

The curriculum in General Agriculture is planned for those students who desire a broad, general training which familiarizes them with all lines of agricultural endeavor rather than a specialized training in any one field of agriculture. It is designed for students who wish to return to the farm as farm operators or farm managers; for students who desire to enter industrial, business, and commercial enterprises serving agriculture and dealing with rural people; and for those who wish to enter some field of agricultural leadership in which a rather broad field of knowledge is required.

Graduates in the General Agriculture Curriculum are qualified to enter graduate schools for advanced study toward higher degrees.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Agronomy 401: Field Crops | 3 |
| Animal Husbandry 401: General Animal Husbandry | 3 |
| Botany 401: General Botany | 4 |
| Botany 510: Taxonomy of Flowering Plants | 3 |
| Chemistry 401, 402: General Inorganic Chemistry | 8 |
| English 401, 402: Composition and Rhetoric | 6 |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 |
| Orientation 401 | 1 |
| Physical Education or Air Science | 2 |
| Total semester hours | 36 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| Agronomy 502: Soils | 4 |
| Bacteriology 501: General Bacteriology | 3 |
| Botany 520: Plant Physiology | 3 |
| Chemistry 505: Analytical Chemistry | 4 |
| Chemistry 520 or 530: Organic Chemistry | 4 |
| Dairying 501: Dairying | 3 |
| English 502: American Literature | 3 |
| History 502: History of the U. S., or Political Science 501: Government of the U.S. | 3 |
| Horticulture 401: General Horticulture | 3 |
| Physical Education or Air Science | 2 |
| Speech 410: Principles of Speech | 3 |
| Total semester hours | 35 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Agricultural Engineering 505: Farm Power and Machinery | 3 |
| Agronomy 510: Forage Crops | 3 |
| Animal Husbandry 601: Feeds and Feeding | 3 |
| Botany 615: Genetics | 3 |
| Economics 501: Economic Principles | 3 |
| Horticulture 501: Vegetable Growing | 3 |
| Horticulture 505: Fruit Growing | 3 |
| Poultry Husbandry 501: Poultry Production | 3 |
| Zoology 511: General and Economic Entomology | 3 |
| Electives | 8 |
| Total semester hours | 35 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Agronomy 703: Soil Conservation and Crop Management | 3 |
| Animal Husbandry 701: Animal Breeding | 3 |
| Botany 630: Plant Pathology | 3 |

| | | |
|---|---|---|
| Botany 705: Plant Breeding | 3 | |
| Dairying 610: Market Milk | 3 | |
| Veterinary Science 701: Animal Pathology | 3 | |
| Electives | 16 | |
| Total semester hours | | 34 |
| Total hours for graduation | | 140 |

*The Dean of the School, or his designated representative, will serve as advisor of students in this curriculum.

## AGRICULTURAL ENGINEERING

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 401: Introduction to Agricultural Engineering | 1 | |
| Botany 401: General Botany | 4 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| Engineering 451: Engineering Drawing | 2 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 540: Calculus and Analytic Geometry I | 6 | |
| Mathematics 541: Calculus and Analytic Geometry II | 6 | |
| Physical Education or Air Science | 2 | |
| Total semester hours | | 35 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 501: Farm Machinery | 3 | |
| Agricultural Engineering 511: Farm Shop | 2 | |
| Civil Engineering 521, 522: Mechanics | 6 | |
| Engineering 462: Descriptive Geometry | 2 | |
| History 502: History of the U.S., or Political Science 501: Government of the U.S. | 3 | |
| Horticulture 401: General Horticulture, or Dairying 501: Dairying | 3 | |
| Mathematics 706: Ordinary Differential Equations | 3 | |
| Physical Education or Air Science | 2 | |
| Physics 501, 502: General Physics | 8 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 35 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 601: Farm Structures | 3 | |
| Agricultural Engineering 610: Drainage, Irrigation, and Terracing | 3 | |
| Agronomy 401: Field Crops | 3 | |
| Agronomy 502: Soils | 4 | |
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Bacteriology 601: Sanitary Bacteriology | 3 | |
| Civil Engineering 621: Fluid Mechanics | 3 | |
| Civil Engineering 622: Strength of Materials | 3 | |
| English 502: American Literature | 3 | |
| Mechanical Engineering 615: Thermodynamics | 3 | |
| Elective | 3 | |
| Total semester hours | | 34 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 605, 606: Farm Power Units | 6 | |
| Agricultural Engineering 615 or 707: Advanced Farm Machinery or Advanced Farm Structures Design | 3 | |
| Agricultural Engineering 701: Farm Utilities | 2 | |
| Agricultural Engineering 703: Soil and Water Conservation Engineering | 3 | |
| Agricultural Engineering 705: Rural Electrification | 3 | |
| Agficultural Engineering 709: Special Problems | 3 | |
| Agricultural Engineering 711: Seminar | 1 | |
| Ecomics 501: Economic Principles | 3 | |
| Electrical Engineering 623: Electrical Systems | 4 | |
| Electives | 8 | |
| Total semester hours | | 36 |
| Total hours for graduation | | 140 |

# AGRONOMY

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Agronomy 401: Field Crops | 3 | |
| Botany 401: General Botany | 4 | |
| Botany 505: Plant Anatomy | 3 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Horticulture 401: General Horticulture | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Total semester hours | | 36 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agronomy 502: Soils | 4 | |
| Agronomy 510: Forage Crops | 3 | |
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Bacteriology 501: General Bacteriology | 3 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Botany 520: Plant Physiology | 3 | |
| Chemistry 505: Analytical Chemistry | 4 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| History 502: History of the U.S., or Political Science 501: Government of the U.S. | 3 | |
| Physical Education or Air Science | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 35 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 515: Land Drainage and Terracing | 2 | |
| Agronomy 606: Grain Crops | 3 | |
| Agronomy 610: Cotton | 3 | |
| Animal Husbandry 601: Feeds and Feeding | 3 | |
| Bacteriology 615: Soil Microbiology | 3 | |
| Botany 615: Genetics | 3 | |
| Dairying 501: Dairying | 3 | |
| Economics 501: Economic Principles | 3 | |
| English 502: American Literature | 3 | |
| Zoology 511: General and Economic Entomology | 3 | |
| Electives | 6 | |
| Total semester hours | | 35 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Agronomy 615: Soil Fertility | 4 | |
| Agronomy 703: Soil Conservation and Crop Management | 3 | |
| Agronomy 710: Soil Classification | 4 | |
| Agronomy 711: Seminar | 1 | |
| Botany 630: Plant Pathology | 3 | |
| Botany 705: Plant Breeding | 3 | |
| Economics 702: Farm Management | 3 | |
| Electives | 13 | |
| Total semester hours | | 34 |
| Total hours for graduation | | 140 |

## ANIMAL HUSBANDRY

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Botany 401: General Botany | 4 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Zoology 400: General Zoology | 4 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agronomy 401: Field Crops | 3 | |
| Animal Husbandry 501: Breeds of Farm Animals | 3 | |
| Bacteriology 501: General Bacteriology | 3 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Chemistry 505: Analytical Chemistry | 4 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| Dairying 501: Dairying | 3 | |
| English 502: American Literature | 3 | |
| History 502: History of the U.S., or Political Science 501: Government of the U.S. | 3 | |
| Horticulture 401: General Horticulture | 3 | |
| Physical Education or Air Science | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 37 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 505: Farm Power and Machinery | 3 | |
| Agronomy 502: Soils | 4 | |
| Agronomy 510: Forage Crops | 3 | |
| Animal Husbandry 601: Feeds and Feeding | 3 | |
| Animal Husbandry 606: Beef Cattle Production | 3 | |
| Animal Husbandry 608: Swine Production | 3 | |
| Botany 615: Genetics | 3 | |
| Economics 501: Economic Principles | 3 | |
| Poultry Husbandry 501: Poultry Production | 3 | |
| Veterinary Science 601: Anatomy and Physiology of Animals | 3 | |
| Electives | 4 | |
| Total semester hours | | 35 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Animal Husbandry 610: Horse and Sheep Production | 3 | |
| Animal Husbandry 615: Meats | 3 | |
| Animal Husbandry 701: Animal Breeding | 3 | |
| Animal Husbandry 705: Advanced Animal Nutrition | 3 | |
| Animal Husbandry 711: Seminar | 1 | |
| Botany 630: Plant Pathology | 3 | |
| Veterinary Science 701: Animal Pathology | 3 | |
| Electives | 15 | |
| Total semester hours | | 34 |
| Total hours for graduation | | 140 |

## BOTANY*

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Botany 401: General Botany | 4 | |
| Botany 505: Plant Anatomy | 3 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Total semester hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Bacteriology 501: General Bacteriology | 3 | |
| Botany 515: Dendrology | 3 | |
| Botany 520: Plant Physiology | 3 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| English 502: American Literature | 3 | |
| History 502: History of the United States | 3 | |
| Physical Education or Air Science | 2 | |
| Political Science 501: Government of the United States | 3 | |
| Speech 410: Principles of Speech | 3 | |
| Zoology 400: General Zoology | 4 | |
| Electives | 2 | |
| Total semester hours | | 33 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Bacteriology | 3 | |
| Botany 601: Plant Morphology | 3 | |
| Botany 615: Genetics | 3 | |
| Botany 620: Plant Ecology | 3 | |
| Botany 625: Plant Microtechnique | 3 | |
| Botany 630: Plant Pathology | 3 | |
| Economics 501: Economic Principles | 3 | |
| Physics | 8 or 6 | |
| Electives | 2 or 4 | |
| Total semester hours | | 32 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Botany 640: Economic Botany | 3 | |
| Botany 650: Mycology | 3 | |
| Electives | 26 | |
| Total semester hours | | 32 |
| Total hours for graduation | | 130 |

*See also under Department of Botany and Bacteriology.

**Before the beginning of the junior year, Botany majors must consult the Head of the Department of Botany and Bacteriology for approval of their electives.

# DAIRY MANUFACTURING

## (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Animal Husbandry 401: General Animal Husbandry | 3 |
| Botany 401: General Botany | 4 |
| Chemistry 401, 402: General Inorganic Chemistry | 8 |
| English 401, 402: Composition and Rhetoric | 6 |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 |
| Orientation 401 | 1 |
| Physical Education or Air Science | 2 |
| Zoology 400: General Zoology | 4 |
| Total semseter hours | 34 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| Agricultural Engineering 509: Farm Shop | 2 |
| Bacteriology 501: General Bacteriology | 3 |
| Chemistry 505: Analytical Chemistry | 4 |
| Chemistry 520 or 530: Organic Chemistry | 4 |
| Dairying 501: Dairying | 3 |
| Economics 501: Economic Principles | 3 |
| English 502: American Literature, or English 603: Technical English | 3 |
| History 501: History of the U. S., or Political Science 501: Government of the U. S. | 3 |
| Physical Education or Air Science | 2 |
| Physics 505, 506: Classical and Modern Physics | 6 |
| Speech 410: Principles of Speech | 3 |
| Total semester hours | 36 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Accounting 500: Survey of Accounting | 3 |
| Animal Husbandry 601: Feeds and Feeding | 3 |
| Bacteriology 601: Sanitary Bacteriology | 3 |
| Bacteriology 605: Food Microbiology | 3 |
| Bacteriology 610: Dairy Bacteriology | 3 |
| Dairying 601: Testing Dairy Products | 3 |
| Dairying 603: Judging Dairy Products | 1 |
| Dairying 610: Market Milk | 3 |
| Dairying 618: Ice Cream | 3 |
| Dairying 620: Butter | 3 |
| Electives | 7 |
| Total semester hours | 35 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Agricultural Engineering 625: Dairy Engineering | 3 |
| Bacteriology 630: Advanced Bacteriology | 3 |
| Dairying 623: Cheese | 3 |
| Dairying 625: Condensed and Powdered Milk | 3 |
| Dairying 630: Dairy Plant Management | 2 |
| Dairying 709: Dairy Practicums | 2 |
| Dairying 711: Seminar | 1 |
| Veterinary Science 701: Animal Pathology | 3 |
| Electives | 15 |
| Total semester hours | 35 |
| Total hours for graduation | 140 |

# DAIRY PRODUCTION

## (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Botany 401: General Botany | 4 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Zoology 400: General Zoology | 4 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 509: Farm Shop | 2 | |
| Agronomy 401: Field Crops | 3 | |
| Bacteriology 501: General Bacteriology | 3 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Chemistry 505: Analytical Chemistry | 4 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| Dairying 501: Dairying | 3 | |
| English 502: American Literature | 3 | |
| History 502: History of the U.S., or Political Science 501: Government of the U.S. | 3 | |
| Horticulture 401: General Horticulture | 3 | |
| Physical Education or Air Science | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 36 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agronomy 502: Soils | 4 | |
| Agronomy 510: Forage Crops | 3 | |
| Animal Husbandry 601: Feeds and Feeding | 3 | |
| Bacteriology 610: Dairy Bacteriology | 3 | |
| Botany 615: Genetics | 3 | |
| Dairying 601: Testing Dairy Products | 3 | |
| Dairying 603: Dairy Products Judging | 1 | |
| Dairying 605: Dairy Cattle Judging | 2 | |
| Dairying 610: Market Milk | 3 | |
| Economics 501: Economic Principles | 3 | |
| Poultry Husbandry 501: Poultry Production | 3 | |
| Veterinary Science 601: Anatomy and Physiology of Animals | 3 | |
| Electives | 2 | |
| Total semester hours | | 36 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Animal Husbandry 701: Animal Breeding | 3 | |
| Botany 630: Plant Pathology | 3 | |
| Dairying 615: Dairy Manufactures | 3 | |
| Dairying 701: Dairy Cattle Feeding and Management | 3 | |
| Dairying 705: Advanced Dairying | 3 | |
| Dairying 709: Dairy Practicums | 2 | |
| Dairying 711: Seminar | 1 | |
| Veterinary Science 701: Animal Pathology | 3 | |
| Electives | 13 | |
| Total semester hours | | 34 |
| Total hours for graduation | | 140 |

# FORESTRY
## (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Botany 401: General Botany | 4 | |
| Botany 505: Plant Anatomy | 3 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Forestry 401: General Forestry | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Total semester hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 410: Elementary Drafting | 1 | |
| Botany 520: Plant Physiology | 3 | |
| Economics 501: Economic Principles | 3 | |
| English 603: Technical English | 3 | |
| Forestry 502: Forest Protection | 3 | |
| Forestry 505, 506: Dendrology | 6 | |
| Physical Education or Air Science | 2 | |
| Physics 509: Elementary Physics | 4 | |
| Speech 410: Principles of Speech | 3 | |
| Zoology 512: Forest Entomology | 3 | |
| *Electives | 3 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agronomy 602: Forest Soils | 4 | |
| Botany 633: Forest Pathology | 3 | |
| Civil Engineering 644: Plane Surveying | 3 | |
| Forestry 601: Foundations of Silviculture | 3 | |
| Forestry 602: Practice of Silviculture | 3 | |
| Forestry 606: Forest Mensuration | 3 | |
| Forestry 610: Seeding and Planting | 3 | |
| Forestry 705: Identification and Properties of Wood | 3 | |
| Zoology 517: Principles of Wild Life Management | 2 | |
| *Electives | 6 | |
| Total semester hours | | 33 |

| JUNIOR YEAR (Summer Camp) | Semester Hours | |
|---|---|---|
| Forestry 615: Forest Mensuration | 3 | |
| Forestry 616: Forest Engineering | 3 | |
| Forestry 617: Forest Ecology | 1 | |
| Forestry 618: Forest Genetics | 1 | |
| Forestry 619: Aerial Photo-Interpretation | 1 | |
| Total semester hours | | 9 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Forestry 701, 702: Forest Management | 6 |
| Forestry 703: Forest Finance | 3 |
| Forestry 706: Harvesting and Manufacturing (Lumber) | 3 |
| Forestry 707: Forest Products | 3 |
| Forestry 708: Seasoning and Preservation | 3 |
| Forestry 709: Forest Economics | 3 |
| Forestry 710: Forest Policy | 3 |

| | | |
|---|---|---|
| Forestry 711: Forest Recreation | 3 | |
| *Electives | 9 | |
| Total semester hours | | 36 |
| Total hours for graduation | | 145 |

*Electives are to be chosen with the approval of the Head of the Department of Forestry.

## HORTICULTURE

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Agronomy 401: Field Crops | 3 | |
| Botany 401: General Botany | 4 | |
| Botany 505: Plant Anatomy | 3 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Horticulture 401: General Horticulture | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Total semester hours | | 36 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Agronomy 502: Soils | 4 | |
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Bacteriology 501: General Bacteriology | 3 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Botany 520: Plant Physiology | 3 | |
| Chemistry 505: Analytical Chemistry | 4 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| Horticulture 501: Vegetable Growing | 3 | |
| Horticulture 505: Fruit Growing | 3 | |
| Physical Education or Air Science | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 35 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agricultural Engineering 515: Land Drainage and Terracing | 2 | |
| Botany 615: Genetics | 3 | |
| Dairying 501: Dairying | 3 | |
| Economics 501: Economic Principles | 3 | |
| English 502: American Literature | 3 | |
| History 502: History of the U.S., or Political Science 501: Government of the U.S. | 3 | |
| Horticulture 510: Flower Growing | 3 | |
| Horticulture 520: Elementary Landscaping | 3 | |
| Horticulture 603: Small Fruit and Nut Culture | 3 | |
| Zoology 511: General and Economic Entomology | 3 | |
| Electives | 6 | |
| Total semester hours | | 35 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Agronomy 615: Soil Fertility | 4 |
| Botany 630: Plant Pathology | 3 |
| Botany 705: Plant Breeding | 3 |
| Horticulture 615: Plant Propagation | 3 |

| | | |
|---|---|---|
| Horticulture 701: Commercial Fruit Production | 3 | |
| Horticulture 709: Nursery Management | 2 | |
| Horticulture 711: Seminar | 1 | |
| Electives | 15 | |
| Total semester hours | | 34 |
| Total hours for graduation | | 140 |

## MICROBIOLOGY (BACTERIOLOGY)

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Botany 401: General Botany | 4 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Zoology 400: General Zoology | 4 | |
| Total semester hours | | 31 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Bacteriology 501: General Bacteriology | 3 | |
| Bacteriology 601: Sanitary Bacteriology | 3 | |
| Bacteriology 605: Food Microbiology | 3 | |
| Botany 520: Plant Physiology | 3 | |
| Chemistry 505: Analytical Chemistry | 4 | |
| Chemistry 520 or 530: Organic Chemistry | 4 | |
| English 502: American Literature | 3 | |
| History 502: History of the United States | 3 | |
| Physical Education or Air Science | 2 | |
| Political Science 501: Government of the United States | 3 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Bacteriology 610: Dairy Bacteriology | 3 | |
| Bacteriology 615: Soil Microbiology | 3 | |
| Bacteriology 618: Industrial Microbiology | 3 | |
| Botany 615: Genetics | 3 | |
| Economics 501: Economic Principles | 3 | |
| Physics 505, 506: Classical and Modern Physics | 6 | |
| Zoology 544: Parasitology | 3 | |
| *Electives | 9 | |
| Total semester hours | | 33 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Bacteriology 620: Pathogenic Bacteriology | 3 | |
| Bacteriology 625: Virology | 3 | |
| Bacteriology 630: Advanced Bacteriology | 3 | |
| Botany 650: Mycology | 3 | |
| Botany 710: Medical Mycology | 3 | |
| Veterinary Science 701: Animal Pathology | 3 | |
| *Electives | 14 | |
| Total semester hours | | 32 |
| Total hours for graduation | | 130 |

*Electives are to be chosen with the approval of the Head of the Department of Botany and Bacteriology.

## PRE-VETERINARY MEDICINE*

This two-year curriculum in Pre-Veterinary Medicine is set up in cooperation with the School of Veterinary Medicine of the Agricultural and Mechanical College of Texas, which has been designated in the regional program as the School in which qualified Louisiana students are to be accepted.

Louisiana has been allocated a tentative quota of nine students per year, with the requirement that our state legislature pay $1000 a year for each Louisiana student admitted.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Animal Husbandry 401: General Animal Husbandry | 3 | |
| Botany 401: General Botany | 4 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Zoology 401, 402: General Zoology | 8 | |
| Total semester hours | | 38 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Chemistry 601, 602: Organic Chemistry | 6 | |
| Chemistry 603, 604: Organic Laboratory | 2 | |
| Dairying 501: Dairying | 3 | |
| English 603: Technical English | 3 | |
| History 501, 502: History of the United States | 6 | |
| Physical Education or Air Science | 2 | |
| Physics 509, 510: Elementary Medical Physics | 8 | |
| Political Science 501: Government of The United States | 3 | |
| Poultry Husbandry 501: Poultry Production | 3 | |
| Total semester hours | | 36 |
| Total hours | | 74 |

*This curriculum will be varied to meet the requirements of the Veterinary College which the student plans to enter.
The Dean of the School, or his designated representative, will serve as advisor of students in this curriculum.

## WILDLIFE CONSERVATION AND MANAGEMENT
### (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Botany 401: General Botany | 4 | |
| Botany 510: Taxonomy of Flowering Plants | 3 | |
| Chemistry 401, 402: General Inorganic Chemistry | 8 | |
| English 401, 402: Composition and Rhetoric | 6 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 6 | |
| Orientation 401 | 1 | |
| Physical Education or Air Science | 2 | |
| Zoology 400: General Zoology | 4 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| Agronomy 401: Field Crops | 3 |
| Bacteriology 501: General Bacteriology | 3 |
| Botany 512: Wildlife Conservation and Management | 3 |
| Botany 515, 518: Dendrology | 6 |
| Botany 520: Plant Physiology | 3 |

| | | |
|---|---|---|
| Economics 501: Economic Principles | 3 | |
| English 502: American Literature | 3 | |
| History 502: History of the United States | 3 | |
| Physical Education or Air Science | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Electives | 3 | |
| Total semester hours | | 35 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Agronomy 502: Soils | 4 | |
| Botany 615: Genetics | 3 | |
| Botany 620: Plant Ecology | 3 | |
| Botany 622: Forest Ecology | 3 | |
| Botany 630: Plant Pathology | 3 | |
| Political Science 501: Government of the United States | 3 | |
| Veterinary Science 601: Anatomy and Physiology of Animals | 3 | |
| Zoology 511: General and Economic Entomology | 3 | |
| Zoology 731: Field Zoology | 3 | |
| Electives* | 8 | |
| Total semester hours | | 36 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Botany 642: Aquatic Plants | 3 | |
| Botany 645: Food Plants of Game Animals | 3 | |
| Veterinary Science 701: Animal Pathology | 3 | |
| Zoology 517: Principles of Wildlife Management | 3 | |
| Zoology 618: Management of Upland Game | 3 | |
| Zoology 733: Ornithology | 3 | |
| Electives* | 18 | |
| Total semester hours | | 35 |
| Total hours for graduation | | 140 |

*Electives must be chosen with the advice and approval of the Head of the Department of Botany and Bacteriology.

# GRADUATE CURRICULA

## DEPARTMENT OF AGRICULTURAL ENGINEERING

*Requirements for the Degree of Master of Science with a Major in Agricultural Engineering*

The Department of Agricultural Engineering offers a program leading to the Master of Science degree in Agricultural Engineering.

Prerequisite to graduate work in Agricultural Engineering is a Bachelor of Science degree in Agricultural Engineering from an accredited institution with a minimum of 24 semester hours in the major field, 24 semester hours in other engineering, 15 semester hours in Mathematics, and 18 semester hours in scientific and applied agriculture.

The general requirement for the Master of Science degree in Agricultural Engineering is the satisfactory completion of 30 semester hours, including a thesis, with a minimum of 18 semester hours in the major field.

One academic year, or the equivalent, is the residence requirement for the Master of Science degree at Louisiana Polytechnic Institute.

## DEPARTMENT OF BOTANY AND BACTERIOLOGY

*Requirements For The Degree of Master of Science With Majors in Botany and in Microbiology*

The Department of Botany and Bacteriolgy offers work leading to the degree of Master of Science in Botany and the degree of Master of Science in Microbiology.

Prerequisite to graduate work in Botany is a Bachelor of Science degree from an accredited institution with a major in Botany of not less than 30 semester hours, or with a major in Biology with a minimum of 21 semester hours in Botany. In certain specific instances, six hours of course work in the applied botanical fields of Agronomy, Forestry, or Horticulture may be substituted for required Botany.

Prerequisite to graduate work in Microbiology is a Bachelor of Science degree with a major in Microbiology, or with a major in Biology, Botany, or Zoology which includes the foundational courses in Bacteriology, Chemistry, and Physics.

The general requirements for the Master of Science degree in Botany, or the Master of Science degree in Bacteriology, are 30 semester hours, including a thesis, with a minimum of 18 semester hours in the major field, in addition to any undergraduate courses necessary to fulfill the entrance requirements for work toward the Master of Science degree in Botany, or in Microbiology.

The residence requirement for the Master of Science degree is one academic year, or the equivalent, at Louisiana Polytechnic Institute.

# Department of Agricultural Engineering

JOHN J. McDOW, HEAD OF THE DEPARTMENT
PROFESSORS: FREDERICK E. BECKETT AND JOHN J. McDOW
ASSISTANT PROFESSOR: CHARLES W. WILSON

The Department of Agricultural Engineering, whose curriculum is approved by the American Society of Agricultural Engineers, and the Engineers' Council for Professional Development, is administered by the School of Agriculture and Forestry with the cooperation of the School of Engineering. It is concerned with the teaching of courses for the service of students who are majoring in other departments, as well as for the students who expect to become professional agricultural engineers.

The Department offers programs leading to the Bachelor of Science degree and the Master of Science degree in Agricultural Engineering.

The Agricultural Engineering profession, which is identified with the largest and most important industry in the world, the agricultural industry, is now recognized as one of the leading engineering professions.

The Department's four-year program of instruction, which leads to the Bachelor of Science degree, is designed to give the students a broad education in the biological, physical, and social sciences, and in other cultural subjects; a fundamental training in both engineering and agriculture; and a general or a specialized education in the application of engineering principles to the many requirements of agriculture. It comprises all the basic science courses which are included in the engineering curricula of the School of Engineering, such as courses in Mathematics and Physics, and some of the basic science courses which are common to the curricula of the School of Agriculture and Forestry, such as courses in Botany, Bacteriology, and Chemistry.

Since the extremely varied nature of the work which is required of the agricultural engineer calls for considerable breadth of training, the Agricultural Engineering Curriculum is organized to give a knowledge of all the major phases of Agricultural Engineering: farm power and machinery; farm structures and equipment; soil and water conservation engineering, including drainage, irrigation, and soil erosion control; and rural electrification.

The Department of Agricultural Engineering is mainly housed in the Agricultural Engineering Building, on the farm campus, where it maintains offices, a reading room, classrooms, laboratories, storage rooms. and rest rooms.

Shops, laboratories, and equipment storage buildings, with modern machinery and tools; irrigation systems; and nurseries, demonstrational fields, and livestock farms are available for effective work in the various courses of Agricultural Engineering.

Positions open to graduates of the curriculum in Agricultural Engineering include work with manufacturers of tractors, farm machinery, and other farm equipment; positions with building material manufacturers in advertising, sales, and production; engineering work in soil conservation, such as drainage, irrigation, land clearing, and erosion prevention; positions with engineering and contracting firms in soil erosion control, irrigation, and drainage; service with the government in extension, teaching, and research; positions in appraisal and consultation; editorial work on trade and farm journals; mechanized farming, operating machinery dealerships, and related lines of work in private business; and engineering management and development in rural electrification.

Graduates of the Department's curriculum are prepared to enter graduate schools for study toward higher degrees in Agricultural Engineering.

## DESCRIPTION OF AGRICULTURAL ENGINEERING COURSES

### *Undergraduate*

**401: Introduction to Agricultural Engineering.** 0-1-1*. A course which offers an introduction to the application of engineering principles to the improvement of practices in agriculture, including a brief history of the development of agricultural engineering in the United States.

**405: Agricultural Drawing.** 4-0-2. A study of the basic principles of drafting as applied to farm layout, small buildings, and equipment. It includes free-hand lettering and sketching, working drawings, and blue-print reading.

**410: Elementary Drafting.** 2-0-1. An introductory course in drafting, including free-hand lettering and the care and use of drawing instruments.

**501: Farm Machinery.** 2-2-3. Prerequisite, Mathematics 401. A course involving the selection, construction, operation, adjustment, servicing, and economic application of the various types of agricultural machines.

**505: Farm Power and Machinery.** 2-2-3. A study of the selection, adjustment, operation, and maintenance of farm engines and tractors; and the selection, adaptation, operation, care, and repair of farm machinery used in agricultural production.

**509: Farm Shop.** 4-0-2. A course dealing with the fundamentals and practice of woodworking, forging, tempering, welding, soldering,

* First number, laboratory hours per week; second, lecture hours per week; third, semester hours.

pipe fitting, concrete mixing and placing, sheet metal working, and wood finishing on the farm.

511: **Farm Shop.** 4-0-2. A study of the principles of construction, carpentry, care of tools, forging and tempering of steel, soldering, gas and electric welding, pipe fitting, and repair of farm machines.

515: **Land Drainage and Terracing.** 4-0-2. Instruction and practice in elementary surveying and prevention of soil erosion. Layout and construction of terraces and farm drainage systems.

## *Undergraduate or Graduate*

601: **Farm Structures.** 3-2-3. Prerequisite, Physics 501. A study of the selection and characteristics of materials used for construction; heat transfer; air-water vapor mixtures; ventilation and refrigeration; functional design of farm buildings and farmstead layouts; and economic aspects of farm buildings.

603: **Farm Buildings.** 2-1-2. A course designed to give a knowledge of the location, arrangement, design, construction, care, and repair of farm buildings.

605, 606: **Farm Power Units.** 2-2-3 each. Prerequisite, Mechanical Engineering 615. A study of the principles of selection, construction, operation, and maintenance of farm power units, stressing the application and economic value of engines and tractors to agricultural practices.

610: **Drainage, Irrigation, and Terracing.** 2-2-3. A general course dealing with the practical application of the principles of soil and water control. Emphasis is placed on the hydraulic design, location, and construction of drainage, irrigation, and erosion control facilities.

615: **Advanced Farm Machinery.** 2-2-3. Prerequisite, Civil Engineering 521. A course covering basic principles in the design of farm machinery, including aspects of materials, elements of machines, hydraulic systems, functional operations, force analysis, and power transmission for tillage, cultivating, seeding, and harvesting equipment.

620: **Farm Electricity.** 2-2-3. A course concerned with the practical application of electricity to the farm and farm home, including wiring, lighting, heating, meter reading, power rates, safety rules and regulations, and the operation and maintenance of farm electrical equipment.

625: **Dairy Engineering.** 2-2-3. A study of the selection, installation, care, and operation of dairy machinery; water supply and waste disposal; indicating and recording instruments; and design and arrangements of dairy buildings.

701: **Farm Utilities.** 2-1-2. Prerequisite, Civil Engineering 621. A study of lighting, heating, refrigeration, water supply, plumbing and sewage disposal systems as applied to the farm and home.

703: **Soil and Water Conservation Engineering.** 2-2-3. Prerequisite, Civil Engineering 621 and Agricultural Engineering 610. An advanced study of the engineering principles and practices involved in conserving soil and water. Runoff measurements and hydrographic data are applied to the design and construction of drainage and erosion prevention facilities, with special consideration being given to problems of drainage and soil conservation districts.

705: **Rural Electrification.** 2-2-3. Prerequisite, Electrical Engineering 623. A study of the problems involved in the economical distribution and utilization of electric power on farms and in rural communities,

stressing the selection and installation of electrical equipment used most efficiently and economically in the production, processing, and storing of feeds necessary in farm enterprises.

**707: Advanced Farm Structures Design.** 2-2-3. Prerequisites, Civil Engineering 622 and Agricultural Engineering 601. An advanced course dealing with the structural design of farm buildings, including load estimates, stress analysis, allowable unit stresses, and involving the design of columns, beams, and connections.

**709: Special Problems.** 0-3-3. Prerequisites, senior standing and consent of head of department. This course is arranged to take care of special problems in the field of Agricultural Engineering.

**711: Seminar.** 0-1-1. Prerequisites, senior standing and consent of head of department. Reviews and discussions of current scientific literature and recent developments in agricultural engineering.

## *Graduate*

**809, 810: Seminar.** 0-1-1 each. Surveys, investigations, and discussions of current problems in agricultural engineering.

**815: Agricultural Processing Systems.** 2-2-3. An intensive study of the various systems used in the processing of agricultural products, including the design, operation, and maintenance of the machines and equipment used.

**820: Instrumentation.** 0-3-3. Prerequisite, consent of the department head. A study of the instruments used in carrying out scientific and applied research in agricultural engineering.

**825: Technical Problems.** 1-4 hours credit. A course designed to provide for a study of special problems in the different fields of agricultural engineering.

**851, 852: Thesis.** 3 hours credit each. Prerequisite, graduate standing and consent of the department head. Independent research for and preparation of a thesis in agricultural engineering leading to the Master of Science degree.

# Department of Agronomy and Horticulture

CHARLES G. HOBGOOD, HEAD OF THE DEPARTMENT

AGRONOMY: PROFESSOR CHARLES G. HOBGOOD
ASSOCIATE PROFESSOR BENJAMIN F. GRAFTON
HORTICULTURE: PROFESSOR JOHN A. WRIGHT

The Department of Agronomy and Horticulture deals with the nation's major agricultural resources: the soils and their crops. It offers courses for students who desire to major or to minor in Agronomy or in Horticulture. Upon satisfactory completion of the four-year curriculum in Agronomy or in Horticulture, students are granted the Bachelor of Science degree.

As instruction in this Department is fundamental to practically all phases of general and specialized agriculture, courses are offered to meet the needs of students majoring or minoring in the curricula of other departments, as well as for students majoring or minoring in the Agronomy Curriculum and in the Horticulture Curriculum.

Courses in the Department of Agronomy and Horticulture include such subjects as the formation, classification, fertilization, conservation, and management of soils; and the taxonomic and physiological aspects, production, control of diseases and insects, preservation, storage, and utilization of field, forage, vegetable, fruit, flower, and ornamental crops.

The Department is domiciled in Reese Hall, having offices, storage rooms, classrooms, and laboratories on both floors of this agriculture building.

## AGRONOMY CURRICULUM

The courses offered in the field of Agronomy are divided into the subjects of crops and soils. These courses have been developed to provide the student with a knowledge of the production and utilization of field crops and a fundamental knowledge of the management of soils in relation to their environment.

A large portion of the school farm is devoted entirely to the production of field and forage crops which are used as outside laboratories. Field trips are taken in neighboring areas for the student to observe differences in crop production and in variety of soil characteristics.

This curriculum is designed to prepare men for the fields of general farm management and operation, technical plan-

ning, seed production and sales, crop plant breeding, soil technology and other work with the U. S. Soil Conservation Service, agronomic work in the U. S. Department of Agriculture, research in experiment stations, and as a basis for study toward higher degrees.

Students may give emphasis to either phase of Agronomy by proper selection of electives.

## HORTICULTURE CURRICULUM

The program in Horticulure is planned to give students both scientific and practical training in the production, preservation, utilization, and marketing of fruits, vegetables, flowers, and ornamental plants.

The Department of Agronomy and Horticulture, with its well-equipped classrooms, laboratories, storage rooms, greenhouses, and nurseries, in conjunction with the vegetable gardens, orchards of tree fruits and nuts, vineyards, and flower gardens, offers the students an excellent opportunity to acquire a broad knowledge of pomology, olericulture, floriculture, and landscape design.

Graduates in Horticulture are qualified to enter graduate schools for study leading to advanced degrees, for service with the United States Department of Agriculture, for work in the various branches of the florist and nursery business, for engagement in fruit and vegetable production, processing, and marketing, for work in commercial fungicide and insecticide companies, for investigational work in experiment stations, and for many other horticultural pursuits.

## DESCRIPTION OF AGRONOMY COURSES

**401: Field Crops.** 2-2-3*. Prerequisite, Botany 401. A course intended to give a knowledge of the fundamental principles of crop production and management. It emphasizes the characteristics, soil and climatic adaptations, fertilizer requirements, growing, harvesting, and utilization of the major field crops of Louisiana and the United States.

**502: Soils.** 2-3-4. Prerequisite, Chemistry 402. A general study of soil science, emphasizing the relation of soil properties and processes to plant growth.

**510: Forage Crops.** 0-3-3. Prerequisites, Agronomy 401 and Botany 510. The growth, distribution, culture, and uses of forage and pasture crops, with special attention to those crops which are adapted to the South.

**602: Forest Soils.** 2-3-4. Prerequisites, Agronomy 401 and Agronomy 502. The fundamentals of soil science in its relation to the growth and distribution of forest trees.

**606: Grain Crops.** 2-2-3. Prerequisites, Agronomy 401 and Botany 510. A study of the taxonomic aspects, geographical distribution, pro-

* First number, laboratory hours per week; second, lecture hours per week; third, semester hours.

duction, harvesting, storage, marketing, and utilization of corn, rice, wheat, barley, oats, rye, grain, sorghums, soybeans, and flax seeds.

610: **Cotton.** 0-3-3. Prerequisites, Agronomy 401, Botany 510, and Botany 520. A study of the species and varieties of cotton and the principles and practices involved in economical cotton production. It covers the botanical characteristics, breeding, adaptations, cultivation, diseases, insects, harvesting, ginning, classing, marketing, and use of cotton.

615: **Soil Fertility.** 2-3-4. Prerequisites, Agronomy 502 and Botany 520. A course concerned with the biological, chemical, and physical factors which maintain and improve soil fertility and affect crop production, including the use of lime, manure, and fertilizer.

620: **Pasture Management.** 2-2-3. Prerequisites, Agronomy 502 and Agronomy 510. A study of pasture management, including types of pastures, pasture vegetation, adaptations and requirements of pasture plants, and methods of establishment and improvement of pastures.

703: **Soil Conservation and Crop Management.** 0-3-3. Prerequisites, Agronomy 401 and Agronomy 502. A course dealing with the causes and control of soil and water losses and the uses of crop rotations in the control of erosion and the maintenance of soil productivity.

705: **Soil Physics.** 2-2-3. Prerequisite, Agronomy 502. A study of the physical properties of the soil, including structure, texture, aeration, temperature, water relation, consistency, and colloidal matter, and their relation to crop production, conservation practices, and land utilization.

710: **Soil Classification.** 4-2-4. Prerequisite, Agronomy 502. A study of the genesis, morphology, and classification of the soils of the United States, with particular reference to classification and mapping of Louisiana soils.

711: **Seminar.** 0-1-1. Reviews, reports, and discussions of current problems in crops and soils.

## DESCRIPTION OF HORTICULTURE COURSES

401: **General Horticulture.** 2-2-3*. Prerequisite, Botany 401. A general study of the principal fruit, vegetable, and ornamental plants, including the geographical distribution of the plants; their structures and functions; the influence of soil and climate on their development; the methods of propagating, pruning, and training the plants; the means of controlling their various pests; and the manner of harvesting and storing the products of horticultural plants.

501: **Vegetable Growing.** 2-2-3. Prerequisites, Horticulture 401 and Botany 510. A course concerned with the principles and practices of vegetable production, emphasizing climatic adaptations, soil preparation, fertilization, use of hotbeds and cold frames, cultural practices, insect and disease control, and marketing. Special consideration is given to vegetable crops grown in the South.

505: **Fruit Growing.** 2-2-3. Prerequisites, Horticulture 401 and Botany 510. A study of the production of fruit and fruit trees, with special attention being given to the location of the orchard, the selection of fruit varieties, planting, cultivation, fertilization, pruning, the control of diseases and insects, harvesting, packing, and marketing.

510: **Flower Growing.** 2-2-3. Prerequisite, Botany 510. A study of the principles and practices involved in the growing of important garden

* First number, laboratory hours per week; second, lecture hours per week: third, semester hours.

and greenhouse flowers, with special attention being given to the varieties of these flowers and their adaptability.

515: **Flower Arrangement.** 2-1-2. The art and science of flower arrangement, including the design and construction of floral pieces for decorative use in the home, for exhibition, and for personal adornment.

520: **Elementary Landscaping.** 2-2-3. Prerequisite, Botany 401. A study of the fundamental principles of landscape design as applied to the home grounds, emphasizing the characteristics, identification, and use of plant materials adapted to ornamental planting in the South.

602: **Ornamental Plants.** 4-1-3. Prerequisite, Botany 510. A study of the ornamental woody and herbaceous plants and their value in landscape planting, with emphasis being placed upon plant materials basic in landscape design in the South.

603: **Small Fruit and Nut Culture.** 2-2-3. Prerequisite, Horticulture 401 and Botany 510. A course dealing with the factors underlying the commercial production of small fruits and nuts, including a study of the varieties, cultural practices, propagation methods, pruning practices, the means of controlling pests, the manner of harvesting, and marketing.

607: **Landscape Design.** 2-2-3. Prerequisites, Horticulture 520 and Horticulture 602. A study of the use of plant materials in landscaping, with emphasis on the various problems involved in the practice of landscape design of small parks, institutional grounds, and other large areas.

610: **Floral Design.** 2-1-2. Prerequisite, Horticulture 515. A study of the more advanced floral compositions, with emphasis on the line designs and period arrangements which are used in flower shows.

615: **Plant Propagation.** 2-2-3. Prerequisite, Botany 520. A study embracing both the principles and the practices of plant propagation. This study includes the reproduction of woody and herbaceous plants by seeds, division, cuttings, layers, budding, and grafting.

701: **Commercial Fruit Production.** 2-2-3. Prerequisites, Horticulture 501 and Botany 520. A course dealing with the commercial production of tree fruits and the principal bush and vine fruits, emphasizing those fruits that are of economic importance in Louisiana.

705: **Advanced Vegetable Crops.** 2-2-3. Prerequisites, Horticulture 501 and Botany 520. A study of the principles and practices involved in the growing of vegetable crops on a commercial scale. Special attention is given to soil and climatic adaptations, improved varieties of vegetables, and the latest trends in packaging and marketing.

709: **Nursery Management.** 2-1-2. Prerequisites, Horticulture 401 and Horticulture 615. A course designed to give a knowledge of the production practices, management, and marketing of nursery plants, with attention being given to nursery grades for fruits and ornamentals.

711: **Seminar.** 0-1-1. Reviews of current horticultural literature, and reports and disussions of problems in fruit, vegetable, and flower growing.

# Department of Animal Industry

HAL B. BARKER, HEAD OF THE DEPARTMENT

ANIMAL HUSBANDRY: ASSOCIATE PROFESSOR GLENN E. CLARK
DAIRYING: PROFESSOR HAL B. BARKER
ASSISTANT PROFESSOR ERNEST W. BRYANT*
INSTRUCTOR ALBERT W. LAZARUS
VETERINARY SCIENCE: ASSOCIATE PROFESSOR JAMES W. PATTERSON

The Department of Animal Industry comprises the fields of Animal Husbandry, Dairying, Poultry Husbandry, and Veterinary Science. Sufficient courses are offered in these fields to fulfill the requirements of the curricula in Animal Husbandry and in Dairying leading to the degree of Bachelor of Science. Also, courses are offered to serve the students who are majoring in other departments of the School of Agriculture and Forestry.

The main objectives of the Department are to give the students who are interested in livestock excellent instruction and practical experience in the judging, breeding, feeding, and management of the different kinds of livestock, and in the processing, preservation, and utilization of animal products.

The contents of the curricula in Animal Husbandry, in Dairy Production, and in Dairy Manufacturing are such as to give students essential courses in the fundamental sciences and adequate course work in other fields of agriculture to balance their knowledge of agriculture as a whole. The courses leading to a major in Animal Husbandry, in Dairy Production, and in Dairy Manufacturing afford the students a good foundation for graduate study in their chosen major, or for employment in the special lines of work for which they are qualified.

The Department of Animal Industry has a chapter of the National Block and Bridle Club. The club is an organization to promote the improvement and increase the interest of students in animal sciences and to bring about closer relationships among students pursuing some phase of animal science as a profession.

The Department occupies offices, classrooms, laboratories, cold storage rooms, and a reading room in Reese Hall, on the farm campus.

## ANIMAL HUSBANDRY CURRICULUM

The Animal Husbandry program is organized to offer

*On leave for study.

the students excellent instruction in the basic sciences and in other cultural subjects, as well as a broad education in the different fields of Animal Husbandry. The courses are arranged to give essential instruction in the production, judging, selection, feeding, and breeding of livestock, and in the processing, preservation, and marketing of livestock products.

Excellent opportunities are afforded majors in Animal Husbandry to obtain practical experience in livestock farm operation and management. On the college farm are kept herds of registered beef cattle, including the Aberdeen Angus and the Hereford breeds; swine, including the Duroc Jersey, the Chester White, the O.I.C., the Hereford, and the Poland China breeds; flocks of Hampshire and Suffolk sheep; flocks of White Leghorn, New Hampshire, and White Rock chickens, and Beltsville turkeys; and adequate barns, poultry houses, a judging pavilion, feed lots, crop lands, and pastures. A meats laboratory is maintained in Reese Hall for the study of meat and its cutting, curing, preservation, storage, and utilization.

Graduates in Animal Husbandry are qualified to manage livestock farms; to enter commercial and industrial fields which are associated with the meat animal industry; to go into research work; and to enter graduate schools for advanced study toward higher degrees.

## DAIRY PRODUCTION CURRICULUM

The curriculum in Dairy Production is designed to give the students a broad education with emphasis on the basic sciences, the selection, care, feeding, breeding, and management of dairy cattle, and the production and marketing of dairy products.

A herd of 200 registered Jersey and Holstein-Friesian cattle; a milking barn; a calf barn; a milk house; a judging pavilion; classrooms and laboratories; storage rooms; and the college creamery, which is equipped for manufacturing various dairy products, such as butter, cheeses, ice cream, and ices, provide the students with ample opportunities for acquiring a scientific and practical education in the different phases of Dairying.

Graduates are prepared to become operators and managers of dairy farms, dairy cattle breeders, dairy farm inspectors, supervisors of dairy herd improvement associations, dairy feed salesmen, salesmen of dairy equipment, and operators and technicians in dairy manufacturing plants. Also, graduates are prepared to do graduate work toward advanced degrees in Dairy Production or in one of its related fields.

## DAIRY MANUFACTURING CURRICULUM

The Dairy Manufacturing Curriculum offers students a broad education in the basic sciences and in Dairying, while emphasizing the manufacture of dairy products.

By proper selection of electives, students may obtain specialized training in both the technical and the commercial aspects of Dairy Manufacturing.

The spacious Tech Creamery, one of the most modern dairy processing plants in the South, with its excellent facilities for the processing of milk, is available for laboratory and research work in Dairy Manufacturing.

The Tech Creamery includes a milk receiving room, a large milk processing room, a manufacturing room, a dry storage room, a can washing room, a compressor room, a boiler room, a retail sales room, offices, and five refrigerated rooms, with each refrigerated room being maintained at the appropriate temperature for the product which is stored.

The equipment in the processing plant, which will process 2000 pounds of milk per hour, includes two farm tanks; two milk storage tanks; a high temperature short-time pasteurizer; a tri-processing machine for the purpose of separating, clarifying, and standardizing milk; a vacuum heat unit to remove abnormal tastes and odors from the milk; a surge tank; an automatic canner; and a mechanical can scrubber. The dairy products manufacturing equipment consists of a cheese vat, a cheese curd mill, a cheese press, cheese hoops, a paraffin vat, and an 80-gallon continuous ice cream freezer.

The shortage of leaders in the agricultural sciences is particularly acute in the field of Dairy Manufacturing, the supply continuing to be far less than the demand.

Students completing this Curriculum are qualified for careers in the dairy industry as technicians; dairy plant operators; dairy plant managers; dairy engineers; salesmen of dairy products, supplies, and equipment; or research workers and instructors.

## DESCRIPTION OF ANIMAL HUSBANDRY COURSES

**401: General Animal Husbandry.** 2-2-3*. A course concerned with the fundamental principles of successful livestock farming. It includes a study of the types, breeds, market grades and classes, methods of production, and economic importance of beef cattle, dairy cattle, swine, sheep, and horses.

**501: Breeds of Farm Animals.** 2-2-3. Prerequisite, Animal Husbandry 401. A study of the leading breeds of cattle, swine, sheep, horses, and mules, with particular attention being given to their breed types, characteristics, origin, development, adaptability, and distribution.

* First number, laboratory hours per week; second, lecture hours per week; third, semester hours.

601: **Feeds and Feeding.** 0-3-3. Prerequisites, Animal Husbandry 401 and Chemistry 402. A study of the source, chemical composition, characteristics, and nutritive value of farm animal feeds; the balancing of rations; and the nutritive requirements and feeding standards for the maintenance, growth, and production of beef cattle, dairy cattle, swine, sheep, horses, and mules.

603: **Livestock Judging.** 2-1-2. Prerequisite, Animal Husbandry 401. A course involving the theory and practice in the judging of beef cattle, hogs, sheep, horses, and mules, with particular reference to their utility and breed characteristics.

606: **Beef Cattle Production.** 2-2-3. Prerequisite, Animal Husbandry 601. A course in the feeding, breeding, care, and management of beef cattle, with special attention being given to feed lot practices, selection, and marketing.

608: **Swine Production.** 2-2-3. Prerequisite, Animal Husbandry 601. A study involving the principles and practices in the breeding, feeding, and management of swine. Special attention is given to housing, judging, and marketing.

610: **Horse and Sheep Production.** 2-2-3. Prerequisite, Animal Husbandry 601. A course dealing with the various phases of horse and sheep production: the feeding, breeding, training, fitting, stabling, and care of both pleasure horses and work horses; and the feeding, breeding, fitting, shearing, management, and marketing of sheep.

615: **Meats.** 4-1-3. Prerequisites, Animal Husbandry 401 and Bacteriology 501. A study of the methods and practices involved in the processing and preservation of meats. It includes the selection and slaughtering of meat animals; the cutting, curing, and preservation of meats; the identification and utilization of the various cuts of meats; and the use of freezer lockers for meat storage.

701: **Animal Breeding.** 2-2-3. Prerequisite, Botany 615. A study of the application of the basic principles of genetics to the improvement of animals. Special attention is given to heredity, variation, selection, artificial insemination, line-breeding, in-breeding, cross-breeding, and breed analysis in farm animal improvement.

703: **Advanced Livestock Judging.** 2-1-2. Prerequisite, Animal Husbandry 603. An advanced course in comparative judging of livestock, with special attention being given to breed type and to the selection of breeding stock.

705: **Advanced Animal Nutrition.** 0-3-3. Prerequisites, Animal Husbandry 601 and Chemistry 530. A study of the principles underlying the selection, preparation, and utilization of feeds for maintaining the nutrition of animals in relation to growth, reproduction, lactation, fattening, and work production. Emphasis is placed on the chemistry and physiology of nutrition.

707: **Advancd Animal Husbandry.** 0-3-3. Prerequisites, Animal Husbandry 601, Bacteriology 501, and Botany 615. An advanced course involving various problems in animal production, animal nutrition, animal breeding, and meat processing and preservation.

711: **Seminar.** 0-1-1. Reviews of current literature, and studies of problems in animal husbandry and related fields.

## DESCRIPTION OF DAIRYING COURSES

501: **Dairying.** 0-3-3. Prerequisite, Chemistry 401. A course dealing with the fundamentals of dairy production and dairy manufacturing. It includes a study of the development and improvement of dairy

cattle, the production of milk, the factors affecting the quantity and quality of milk, the composition and properties of milk, dairy tests, and the manufacture of dairy products.

601: **Testing Dairy Products.** 4-1-3. Prerequisite, Dairying 501. A study of the Babcock testing of milk and milk products for fat; the analysis of milk, ice cream, and cheese; milk quality tests, including lactometer, bacterial count, mastitis, and proper pasteurization; and the standardization of milk.

603: **Dairy Products Judging.** 2-0-1. Prerequisite, Dairying 601. A course concerned with the grades and market standards of dairy products, including the judging of milk, cream, ice cream, butter, and cheese.

605: **Dairy Cattle Judging.** 2-1-2. Special training in selecting and judging dairy cattle of all ages. A study of dairy form, breed type, and the relation of form to function of dairy cattle, with particular attention being given to score card requirements of the five major breeds of dairy cattle.

610: **Market Milk.** 2-2-3. Prerequisites, Dairying 501 and Bacteriology 501. A study of the various phases of the fluid milk industry, including the sanitary production, transportation, processing, distribution, and public health inspection of milk and related products. Attention is given to the food value and flavors of milk; milk plant operation and management; milk laws; and advertising and marketing of milk.

615: **Dairy Manufactures.** 4-1-3. Prerequisites, Dairying 501 and Bacteriology 501. A study of the principles and practices in the making of butter, cheese, ice cream, and ices, with attention being given to the biological, chemical, and physical factors involved and to dairy plant operation and management.

618: **Ice Cream.** 2-2-3. Prerequisite, Dairying 610. A course concerned with the manufacture of ice cream and frozen dairy products, including the selection of ingredients, balancing, and preparation of ice cream mixes; freezing, storage, and marketing.

620: **Butter.** 2-2-3. Prerequisite, Dairying 610. A study of the principles and practices in the manufacture and marketing of butter, emphasizing the factory methods of purchasing, receiving, grading, acid standardization, pasteurization, preparation of cream for churning, churning, working, packaging, and marketing butter.

623: **Cheese.** 2-2-3. Prerequisite, Dairying 610. A course dealing with factory methods of collection, purchase, selection, preparation of milk for cheese making; and manufacturing, packaging, curing, and marketing of cheddar, cottage, and other common types of cheese.

625: **Condensed and Powdered Milk.** 2-2-3. Prerequisite, Dairying 610. A study of the theory and practice of the manufacture of evaporated milk, sweetened condensed milk, milk powder, and other concentrated milk products.

630: **Dairy Plant Management.** 2-1-2. A course designed to present the management problems of dairy processing and manufacturing plants, including operational and business practices; efficient and economical production methods; sanitation; quality control; record keeping; personnel management; and merchandising.

701: **Dairy Cattle Feeding and Management.** 0-3-3. Prerequisites, Dairying 501 and Animal Husbandry 601. An advanced course involving the application of the principles of nutrition to the feeding of dairy cattle and the latest methods of management for maximum efficiency in the production of quality dairy products.

**703: Advanced Dairy Cattle Judging.** 2-1-2. Prerequisite, Dairying 605. Advanced practice in dairy cattle judging, with emphasis being placed on show ring type and classification. Tours are made to livestock shows and to leading dairy farms.

**705: Advanced Dairying.** 0-3-3. Prerequisite, senior standing and consent of instructor. A study concerned with original investigations in dairy production and dairy manufacturing.

**709: Dairy Practicums.** 4-0-2 Prerequisite, senior standing as a major in Dairying. A course involving practical experience in the feeding and management of dairy cattle and in the manufacture of dairy products.

**711: Seminar.** 0-1-1. Assigned readings, discussions, and reports of advanced problems in the various phases of dairying.

## DESCRIPTION OF POULTRY HUSBANDRY COURSES

**501: Poultry Production.** 2-2-3. A general course dealing with the breeds of poultry, the principles and practices of breeding, incubation, brooding and rearing, nutrition, disease control, equipment and houses, management practices, marketing poultry products, and the business of poultry keeping.

**601: Poultry Nutrition and Flock Management.** 2-2-3. Prerequisites, Poultry Husbandry 501 and Chemistry 402. General principles of nutrition as applied to poultry. Nutritive requirements, dietary deficiencies and curative factors, poultry feeds, calculating rations, feeding methods, and economical management practices.

**611: Turkey Production.** 2-1-2. Prerequisite, Poultry Husbandry 501. The application of the principles of selecting and mating, incubation, brooding, nutrition, grading, and marketing of turkeys.

## DESCRIPTION OF VETERINARY SCIENCE COURSES

**601: Anatomy and Physiology of Animals.** 2-2-3. A study of the structures and functions of the tissues and organs of animals. Special attention is given to the muscles and visceral organs; the circulatory, respiratory, and nervous systems; the chemical and physical processes of digestion and absorption; and the anatomical relationships of the organs and systems of domestic animals.

**701: Animal Pathology.** 2-2-3. Prerequisite, Bacteriology 501. A course dealing with the infectious, non-infectious, and parasitic diseases of animals. The etiology, pathology, symptoms, prevention, control, and eradication of the major diseases of farm animals are stressed.

# Department of Botany and Bacteriology

M. HAYNE FOLK, JR., HEAD OF THE DEPARTMENT
PROFESSORS: DONALD L. FERNHOLZ, M. HAYNE FOLK, JR.
JOHN A. MOORE*, AND OTTO WASMER, JR.
ASSOCIATE PROFESSORS: WINSTON P. HACKBARTH, LOWELL A. LOGAN,
AND DALLAS D. LUTES

The Department of Botany and Bacteriology offers four years of college education leading to the degree of Bachelor of Science, which is granted to students who complete the programs of work as indicated in the curricula in Botany, in Microbiology, and in Wildlife Conservation and Management. Also, the Department offers graduate courses leading to the degree of Master of Science in Botany and the degree of Master of Science in Microbiology (Bacteriology).

In order to broaden the educational programs in the Department, the curricula provide for a substantial amount of required and elective courses outside the major fields of study.

Courses are offered in the Department, not only for majors in Botany, in Microbiology, and in Wildlife Conservation and Management and minors in Botany and in Bacteriology, but in fulfillment of the requirements of the curricula in other departments. As Botany is the basic science for students going into the applied botanical fields of Agronomy, Bacteriology, Forestry, Horticulture, Plant Breeding, Plant Pathology, Forest Pathology, and Wildlife Conservation, the Department emphasizes the phases of plant science which are foundational for these applied fields.

The Department of Botany and Bacteriology is housed in the new science building, the Carson-Taylor Hall, which is located on the main campus. With its modern classrooms, laboratories, even temperature rooms, dark rooms, cold rooms, transfer rooms, storage rooms, offices, and herbaria, the Department is now prepared for effective instruction and research in all branches of Botany and Bacteriology.

Laboratories are well-equipped with microscopes, microtomes, autoclaves, incubators, projection lanterns, and other necessary apparatus for the scientific study of plants.

Work in Systematic Botany (Taxonomy and Dendrology) is supported by a systematically organized herbarium, as well as the Louisiana Tech Arboretum and Botanical Gardens, a tract of land containing practically all the various species of plant life now growing in the South. The Arboretum and Botanical Gardens is of special value in the teach-

*On leave

ing of Ecology, also, as it contains a wide range of habitats for growing the many varieties of plants.

Instruction and experimental practices in such applied botanical fields as Plant Physiology, Plant Pathology, Forest Pathology, Plant Breeding, and Wildlife Conservation are carried on with excellent greenhouse facilities, nurseries, gardens, fields, forests, and lakes.

## BOTANY CURRICULUM

Each student who plans to have a major in Botany is required to take thirty-six semester hours of Botany, at least eighteen hours of which must be in advanced courses—i.e., courses bearing numbers above 600. Before the end of the sophomore year he must, with the approval of the Head of the Department, choose his minor program of study and the remainder of his program of work for the junior and senior years.

For the minor program of study, the student majoring in Botany must take twenty-one semester hours of course work in some related field, such as Agronomy, Bacteriology, Chemistry, Forestry, Horticulture, or Zoology.

Students doing work toward a major in other departments and electing Botany or Bacteriology as a minor are required to take twenty-one semester hours in Botany or Bacteriology, the courses to be chosen in consultation with the Head of the Department of Botany and Bacteriology.

The opportunities for graduates in Botany are too varied to permit a complete enumeration. In general, graduates are qualified for the following types of work:

1. Further study in graduate schools.

2. Positions in experiment stations; in federal agencies, notably the United States Bureau of Plant Industry, the National Park Service, the United States Forest Service, and the United States Bureau of Plant Quarantine; and in commercial greenhouses, nurseries, and florist shops.

3. Teaching and research in colleges.

## MICROBIOLOGY (BACTERIOLOGY) CURRICULUM

The program in Microbiology is designed for students who are interested in the study of microbes or bacteria. It is arranged both for those students who plan to secure employment after receiving the Bachelor of Science degree and for those who plan to pursue graduate work in Microbiology, which is essential for preferred employment in the field.

The curriculum offers, in addition to the general training in Microbiology, fundamental training in Chemistry, Physics, and Mathematics, which is necessary for effective work in modern Microbiology.

Graduates of this curriculum are eligible to enter graduate schools for advanced training in Microbiology and to specialize in one or more of its various branches, such as: General Bacteriology, including physiology, instrumentation, and antibiotics; Sanitary Bacteriology, including antiseptics and disinfectants, food storage, and water and sewage; Agricultural Bacteriology, including food, dairy, and soil bacteriology; and Pathogenic Bacteriology, including mycology, immunology, serology, and virology.

Graduates are qualified for positions in federal, state, and municipal laboratories; positions in the fields of medical and public health microbiology; bacteriological work in sanitary, food, dairy, soil, and industrial technology; food preservation work; and positions in experiment stations, research institutes, colleges, or universities.

## WILDLIFE CONSERVATION AND MANAGEMENT CURRICULUM

The science and art of conserving and managing wild animals is comparatively new. While many men from earlier times have had a sympathetic understanding and sometimes considerable knowledge of wildlife, their attitude toward this great national organic resource has been characterized by waste and mismanagement. However, during recent years, so much emphasis has been placed on the production and control of wildlife on public and private lands and waters in agricultural and forested areas that Wildlife Conservation and Management has developed into an established profession requiring college training.

A prerequisite of a wildlife biologist is interest in wild animals and plants, hunting, and fishing. However, in addition to interest, it is necessary for a student to have the initiative, the scholastic aptitude, and the ability to use the tools of pure and applied biology.

The curriculum in Wildlife Conservation and Management is planned both for those students who desire a scientific knowledge of the conservation and management of wildlife and for those who expect to make a living in the wildlife field.

As Wildlife Conservation and Management is essentially applied biology, the curriculum is designed to give a thorough knowledge of Botany and Zoology. All major forms

of plant and animal life are studied, as well as ways of producing favorable environments for the conservation of wildlife and the production of surpluses of wildlife species that can be harvested.

Sufficient electives are carried in the Wildlife program to enable the students to integrate their special interests with other forms of land use—agricultural, forest, or recreational. By the proper choice of the electives, the students may obtain a major or a minor in a related field.

Graduates in Wildlife Conservation and Management are eligible to continue studies in graduate schools for advanced degrees in this field, or in a related field.

Positions open to graduates in Wildlife may be classed as follows: administrative, research, educational, refuge, and law enforcement. Graduates are employed in the United States Fish and Wildlife Service, the United States Soil Conservation Service, the United States Forest Service, the United States Biological Survey, the National Park Service, the State Conservation Departments, research, teaching, and private wildlife management.

## DESCRIPTION OF BOTANY COURSES

### *Undergraduate*

401: **General Botany.** 3-3-4*. A general course designed to give a knowledge of the fundamental facts and principles of plant life. It includes a study of the structure, development, function, life history, and inheritance of plants.

505: **Plant Anatomy.** 3-2-3. Prerequisite, Botany 401. A comparative study and interpretation of the structure of the roots, stems, and leaves of vascular plants, with emphasis being given to the structure of the organs of the chief economic plants.

510: **Taxonomy of Flowering Plants.** 6-1-3. Prerequisite, Botany 401. A study of the identification, classification, and nomenclature of flowering plants, with emphasis being placed upon the flora of Louisiana.

512: **Wildlife Conservation and Management.** 0-3-3. An introduction to the wildlife and fishery resources of North America and their interrelations with other resources, giving emphasis to the conservation and management of the important flora and fauna in our economic and cultural life in Louisiana.

515: **Dendrology.** 3-2-3. Prerequisite, Botany 510. The taxonomy of the principal woody plants of North America, including fall and winter identification, classification, nomenclature, and distribution of trees and shrubs which are indigenous to the Southern United States.

518: **Dendrology.** 3-2-3. Prerequisite, Botany 510. A systematic study of the principal woody plants of North America, under spring and summer conditions, including the identifiction, classification, nomencla-

* First number, laboratory hours per week; second, lecture hours per week; third, semester hours.

ture, and distribution of trees and shrubs that are native to the Southern United States.

520: **Plant Physiology.** 3-2-3. Prerequisites, Botany 401 and Chemistry 402. A study of the life processes of plants, including metabolism and translocation; growth, development, and reproduction, with influencing factors; and response to internal and external stimuli.

525: **General Science.** 0-3-3. A general course embracing the principles and practices of the biological and physical sciences. This course is designed especially for students who are preparing to become elementary teachers.

## *Undergraduate or Graduate*

601: **Plant Morphology.** 3-3-4. Prerequisite, Botany 401. A study of the comparative structures, life histories, and evolutionary tendencies of the vegetative and reproductive organs of plants representing the major groups of green plants. Emphasis is placed on the fundamental principles of the reproductive mechanisms in the higher vascular plants and the application of these principles to problems in crop production, genetics, and plant breeding.

603: **Nature Study.** 0-3-3. A course dealing with nature, including a study of flowers, shrubs, trees, birds, and insects. This course is offered especially for elementary teachers.

605: **Poisonous Plants.** 2-2-3. Prerequisite, Botany 510. A course concerned with the identification, classification, and distribution of poisonous plants, emphasizing the characteristics, habits, and properties which make poisonous plants harmful and the methods used in their prevention, eradication, and control.

608: **Field Botany.** 6-1-3. A course concerned with plant identification and the relation of plants to their environment.

615: **Genetics.** 3-2-3. Prerequisite, Botany 401. A general study of the basic principles of heredity and variation in plants and animals. Attention is given to laws of inheritance, the chromosome theory of heredity, physical basis of inheritance, inheritance of quantitative characters, inheritance of sex, the effects of inbreeding and crossing, gene action, and the origin of inheritable variations and their relation to evolution.

620: **Plant Ecology.** 3-2-3. Prerequisites, Botany 510 and Botany 520. A study of plants and plant communities in relation to their environments, placing emphasis upon the vegetation and habitats of Louisiana and neighboring states. Soils, climate, and other major environmental factors responsible for the distribution and association of plants are considered.

622: **Forest Ecology.** 3-2-3. Prerequisite, Botany 620. The physical and biotic relationships of plants to their environment, with emphasis on habitat factors affecting forest vegetation in the South.

625: **Plant Microtechnique.** 4-1-3. Prerequisite, Botany 401. A course dealing with the technique of preparing slides of plant tissues for microscopic study. It involves selecting, fixing, imbedding, sectioning, staining, and mounting of plant structures.

628: **Introduction of Marine Botany.** 4 hours credit. Prerequisites, 7 semester hours of botany, or consent of the instructor. A laboratory, field, and lecture course on the anatomy, distribution, and general study of the flowering plants and algae which grow in Mississippi Sound and adjacent waters. Taught at the Gulf Coast Research Laboratory, Oceans Springs, Mississippi.

630: **Plant Pathology.** 3-2-3. Prerequisite, Botany 401. A study of the nature, symptions, causes, prevention, and effects of plant diseases, with special attention being given to the prevalent important diseases of economic plants in Louisiana.

633: **Forest Pathology.** 3-2-3. Prerequisite, Botany 401. A study of the important diseases of forest and shade trees, emphasizing the nature, symptoms, causes, effects, and control of these diseases.

635: **Weeds and Weed Control.** 2-2-3. Prerequisites, Botany 510 and Botany 520. A study of the identification, growth habits, distribution, seed characteristics, and economic importance of weeds, stressing the chemical and cultural control of weeds in lawns, gardens, pastures, cultivated fields, and other areas.

640: **Economic Botany.** 0-3-3. A study of the source, distribution, cultivation, and utilization of the principal plants of economic importance to man, giving emphasis to the characteristics of the plants that supply the products used for foods, beverages, drugs, fibers, and shelters.

642: **Aquatic Plants.** 3-2-3. Prerequisite, Botany 510. A taxonomic and ecological study of algae and higher forms of aquatic plants, with emphasis being placed upon their economic importance in wildlife conservation and management.

645: **Food Plants of Game Animals.** 3-2-3. Prerequisite, Botany 510. The identification, classification, distribution, habits, and reproduction of the field and forest plants that supply food for game animals.

650: **Mycology.** 3-2-2. Prerequisite, Bacteriology 501. A course designed to give a knowledge of the morphology, taxonomy, physiology, phylogeny, and reproduction of fungi. Some time is spent in collecting the different fungi and learning their habitats.

701: **Advanced Plant Pathology.** 3-2-3. Prerequisites, Botany 520 and Botany 630. A course concerned with the principles governing the development of plant diseases and their control, including phytopathological techniques in the preparation of culture media, isolation, cultivation, and inoculation of hosts with plant pathogens.

705: **Plant Breeding.** 3-2-3. Prerequisite, Botany 615. A study of the application of the fundamental principles of genetics to the development and maintenance of improved plant varieties. Emphasis is placed upon the production of pure seed; the breeding, selection, and hybridization of field, forage, and horticultural crops; and the application of biometric principles to the interpretation of genetic data.

710: **Medical Mycology.** 3-2-3. Prerequisite, Botany 650. A study involving the characterisitics, habits, and identification of fungus diseases infecting man, emphasizing laboratory techniques and morphological characterisitics of the various mycoses.

715, 716: **Seminar.** 0-1-1 each. Prerequisite, approval of the head of the department. A review of current literature and problems under investigation in botany and plant pathology.

## *Graduate*

805: **Advanced Plant Physiology.** 3-2-3. Prerequisites, Botany 520 and approval of the department head. An advanced course in plant physiology emphasizing the theoretical principles which underlie interpretations of the physical and metabolic processes of plants.

807: **Advanced Plant Taxonomy.** 3-2-3. Prerequisites, Botany 510 plus 12 additional hours of botany. A study of the problems of nomencla-

ture, more recent concepts and systems of classification, taxonomy of specialized groups, and the historical background of plant taxonomy.

**809, 810: Seminar.** 0-1-1 each. Reviews, reports, and discussions of current problems in the various fields of botany.

**815: Advanced Plant Ecology.** 3-2-3. Prerequisite, Botany 620. An advanced study of the classification of vegetation units; origin, development, and reactions of vegetation; and plant indicators.

**820: Advanced Mycology.** 3-2-3. Prerequisite, Botany 650. A course concerned with a detailed study of specific groups of fungi that are of economic importance in this region, emphasizing field collection, identification, cytology, and morphology.

**825: Advanced Plant Anatomy.** 3-2-3. Prerequisite, Botany 505. An advanced study of vegetative and reproductive tissues of vascular plants, emphasizing the selection and preparation of fresh plant materials.

**830: Special Problems.** 1-6 hours credit. Prerequisite, approval of the department head. An advanced course dealing with special problems in the different fields of botany.

**835: History and Literature of Botany.** 3 hours credit. Prerequisite, approval of the department head. Special assigned readings and reports.

**851, 852: Thesis.** 3 hours credit each. Prerequisites, graduate standing and approval of the department head. Research and a dissertation on a field of botany leading to the degree of Master of Science.

## DESCRIPTION OF BACTERIOLOGY COURSES

### *Undergraduate*

**501: General Bacteriology.** 3-2-3 or 6-2-4. Prerequisites, Botany 401 and Chemistry 402. A study of the morphology, physiology, and classification of bacteria; bacterial cultivation, identification, and distribution; and some of the relations of bacteria to agriculture, household science, hygiene, infectious diseases, and sanitary science.

### *Undergraduate or Graduate*

**601: Sanitary Bacteriology.** 3-2-3. Prerequisite, Bacteriology 501 or consent of the instructor. The principles of bacteriology as applied to problems of sanitation. This course, which deals chiefly with the bacteriology of water and sewage, includes water and sewage analysis; water purification; milk sanitation; disinfection and disinfectants; and sewage disposal.

**605: Food Microbiology.** 3-2-3. Prerequisite, Bacteriology 501. A course dealing with the bacteria, yeasts, and molds in fruits, vegetables, meats, seafood, and poultry products, with emphasis on their importance to the food industry and their relation to the health of the public. It includes a study of the role that microorganisms play in food processing, together with the methods used in the bacteriological analysis of foods, in sanitation, and in the prevention and control of food-borne diseases.

**610: Dairy Bacteriology.** 3-2-3. Prerequisite, Bacteriology 501. A study of bacteria and related microorganisms encountered in milk and dairy products; milk spoilage and milk fermentation; bacteriology of butter, ice cream, and cheese; standard methods of milk analysis and dairy inspection.

615: **Soil Microbiology.** 3-2-3. Prerequisite, Bacteriology 501. A theoretical and experimental study of the relationship of microorganisms and soil fertility, with special consideration of factors which influence the changes produced through microbial action.

618: **Industrial Microbiology.** 3-2-3. Prerequisite, Bacteriology 501. A study of the bacteria, molds, and yeasts that are of industrial importance in the biological production of antibiotics, vitamins, alcohols, and organic acids.

620: **Pathogenic Bacteriology.** 3-2-3. Prerequisite, Bacteriology 501. A course designed to give a knowledge of the relation of the common pathogens to health and disease. Emphasis is placed on the morphology, classification, cultural characteristics, biochemical activities, modes of transmission, and pathogenic properties of pathogenic bacteria.

625: **Virology.** 3-2-3. Prerequisite, Bacteriology 620. A study of the nature of viruses and virus diseases, with special attention being given to diagnostic procedures, identification, cultivation, purification, and preservation of viruses.

630: **Advanced Bacteriology.** 3-2-3. Prerequisite, Bacteriology 501. An advanced course in bacteriology concerned with the identification and differentiation of various species of bacteria by morphological, cultural, physiological, and serological studies.

## *Graduate*

805: **Physiology of Bacteria.** 3-2-3. Prerequisite, Bacteriology 630. An advanced course on the physiology of bacteria, including bacterial growth and variation, cytology, nutrition, respiration, and temperature effects.

807: **Genetics of Microorganisms.** 3-2-3. Prerequisite, Bacteriology 501. A basic study of the principles of heredity and variation in one-celled organisms.

809, 810: **Seminar.** 0-1-1 each. Reviews, reports, and discussions of current problems in bacteriology.

815: **Problems.** 1-6 hours credit. Prerequisite, approval of the department head. A course which is concerned with special problems in the various phases of bacteriology.

851, 852: **Thesis.** 3 hours credit each. Prerequisites, graduate standing and approval of the department head. A dissertation on independent research in bacteriology leading to the degree of Master of Science.

# Department of Forestry

LLOYD P. BLACKWELL, HEAD OF THE DEPARTMENT

PROFESSOR OF FORESTRY: LLOYD P. BLACKWELL
ASSOCIATE PROFESSOR OF FORESTRY: ERNEST J. RUSSELL
ASSOCIATE PROFESSOR OF FOREST UTILIZATION: ODIE L. FITZGERALD
ASSOCIATE PROFESSOR OF SILVICULTURE: JOHN KUPRIONIS
ASSISTANT PROFESSOR OF FOREST MANAGEMENT: EDWARD R. ANDRULOT
ASSISTANT PROFESSOR OF FORESTRY: JAMES H. ZEAGLER

The Department of Forestry, which is accredited by the Society of American Foresters, offers four years of college instruction leading to a Bachelor of Science Degree. The Department is a cooperating member of the Regional Committee on Forestry Education and Research under the Southern Regional Education Board.

The entire forestry program is arranged so that a graduate will have both a firm foundation of technical knowledge and a sound educational background. This enables him to build, through practical experience, a satisfying and constructive career in the fields of forestry or allied fields. It also enables those who are interested in graduate study to pursue such work with confidence.

Employment opportunities are broad. Graduates are employed by both private industry and governmental agencies. They are employed by pulp and paper companies, wood preservation companies, the saw milling industry, other industrial owners, forestry consulting firms, and private land owners who need professional service in forestry, land use, and conservation. Graduates are also employed by federal agencies such as the Soil Conservation Service, National Park Service, U. S. Forest Service and similar State agencies not only in technical forestry but also in the professional aspects of land use management and conservation.

## FORESTRY CURRICULUM

The curriculum is built around the technical subjects covering the five fields of forestry: silviculture, protection, management, utilization, and economics and policy. Other courses necessary to provide an adequate background of fundamentals are required.

In addition a student is allowed a choice of electives in order to broaden his educational background or study specifically in some other field of interest along with his major work in forestry.

## GENERAL INFORMATION

Most of the subjects necessary for a broad background and some of the pre-technical subjects are taught on the main campus. Technical forestry subjects are taught in Reese Hall, on the nearby campus of the School of Agriculture and Forestry, in which the Department of Forestry is housed.

A forestry departmental library is located in Reese Hall. It is maintained and operated by the Department of Forestry and the college library as a branch of the main library. It contains over 2,400 books, over 12,000 publications in less permanent forms, and receives more than 140 periodicals and other serial publications. Two complete catalogues are maintained: one for books and one for pamphlets. In addition, a separate card index is maintained for all U. S. Department of Agriculture publications received and a similar index for all Southern Forest Experiment Station publications.

Adjacent to Reese Hall is the Department's permanent installation area wherein much of the forestry laboratory equipment has been installed for laboratory instruction and for giving students practical experience in actual operations.

Theory and practice in the growth of pine and hardwood seedlings is carried on in the department's tree nursery. Essential tools and equipment, including mechanical tree planters, necessary for the growing and field planting of seedlings are housed in the Seeding and Planting building. Facilities for rodent proof pre-curing of pine cones and the extracting, dewinging, and cleaning of their seed are also available. A greenhouse complete with automatic controls for both temperature and humidity is operated in conjunction with the nursery. Located within easy driving distance are state and industrial forest tree nurseries which are visited on field trips.

A weather station is maintained and operated by the Department in cooperation with the Weather Bureau of the U. S. Department of Commerce.

A 65-foot steel fire tower, complete with stairway and glass enclosed 8x8 foot observation cab, has been erected on the college property about one quarter mile south of Reese Hall. Another observation cab has been placed at ground level in the laboratory area to permit easy access for instructional and demonstrational use.

A modern photographic darkroom is maintained. It is completely equipped for processing film and the making of both prints and enlargements.

The Department endeavors to tie in practical field work with a majority of the forestry courses taught. The splendid location and easily accessible diverse forest types readily allow field trips in connection with the regular laboratory classes. Within a few miles of the campus practically all of the important forest types of the South are found. These include bottomland and swamp hardwoods; loblolly, shortleaf, and longleaf pines; mixtures of the pines; and mixed pine with upland hardwoods. Numerous plantations of varying ages are readily accessible. Field work includes actual practice on small forest properties, large industrial forest holdings, and National Forest lands.

Modern forest utilization equipment is available. A sawmill installation under its own shed includes a 16-foot carriage, 50-inch circular saw, 100 H.P. electric motor, 3-saw edger, tool room, and lumber storage room. The logging tools, mechanical chain saws, four-wheel trailer, and tractor used by the students in actual logging operations are kept in a logging room attached to the saw mill. A 1,000-bd. ft. capacity reversible cross-circulation lumber dry kiln of brick construction is equipped with its own steam generator, operating room, and cooling shed. The operating room is equipped with the automatic kiln controls and also with a band saw, balances, oven, and moisture registers for making and testing samples. A planing mill building houses a planer, molder and matcher capable of surfacing up to 8 x 22 inches. This unit is powered by its own 50 H.P. electric motor. A well equipped woodworking shop is housed in a separate building. A cold-soak wood preservation unit has been installed for the preservative treatment of lumber, fence posts, and other forest products. In a laboratory building adjoining the dry kiln, a pressure-treating plant has been installed. The unit consists of a 10-foot treating cylinder, working tanks, vacuum pump, fill pump, air compressor, recording gauges, and automatic temperature controls. Material can be treated under the same conditions that exist in a commercial treating plant. Special equipment includes a 60,000-pound capacity universal wood-testing machine, a toughness testing machine, and a 20-ton capacity electrically heated laboratory press, housed in a timber testing labortory adjoining the dry kiln building.

Located within short driving distance of the college are

sawmills, pulpmills, veneer plants, preservation plants, dimension plants, and other wood using industries, which are visited and studied.

## SUMMER CAMP

A summer camp of nine weeks at the end of the junior year is required before a student can attain senior standing. Only those students who have completed all curriculum requirements through the junior year and have not less than an overall C average are eligible to attend. Residence in camp is required. The camp is designed to give students not only classroom instruction but also practical experience in the forest. Satisfactory completion of this work, which includes the teamwork and sharing of responsibility necessary for successful group activity, is prerequisite for senior forestry courses.

This camp is located thirty miles north of Ruston on Corney Lake. Through a special-use permit with the U. S. Forest Service the facilities of a 20,000-acre land utilization project including 18,000 acres of diverse forest type are made available. Specific training is carried on in both the pine and hardwood timber types which are already of major importance and in those which will become more important in the expansion of the forestry program of the South.

Dormitory, dining, photographic darkrooms, and classroom facilities equipped, owned, and operated by the College, are maintained on the project adjacent to a 2,000-acre lake.

## AERIAL PHOTOGRAPHS

The Department has a wide variety of aerial photographs. Primary importance is attached to photographs of and around the Summer Camp area.

The immediate camp area of about 6,000 acres was photographed in 1938, in 1948, and again in 1959. Prints have been made from both infra-red and panchromatic film. This makes available complete stereoscopic coverage of the camp area.

Necessary equipment for analyzing and interpreting aerial photographs includes additional panchromatic and infra-red photographs of widely distributed forest types at scales ranging from 1:6000 to 1:20000, pocket stereoscopes, binocular mirror stereoscopes, vertical sketchmaster, and supplementary equipment.

## SENIOR FIELD WORK

During the senior year the student's schedule is arranged so that all day Friday of each week is available for field trips to forest areas or wood using plants. This enables the senior class to observe and to take part in numerous forestry and wood using activities being carried on by private companies and governmental agencies. In addition to the trip, a comprehensive typewritten report on the day's activities is required from each student. The continuation of intensive management studies on lands of The Urania Lumber Company started in 1917 by Professor H. H. Chapman of Yale University including the marking and cutting of loblolly and longleaf pines is one of the highlights of the senior field work. Equally important with the Urania Work are field trips which are made periodically with the Southern Hardwood Forestry Group onto areas of managed bottom-land hardwoods.

## EXTRA CURRICULAR ACTIVITIES

Students are encouraged to participate in campus activities in order that they may become more well rounded individuals.

Radio and television programs on forestry are developed and presented periodically by the forestry faculty and students. The radio programs are broadcast locally and over several other stations. Radio broadcasting by the Department started in October 1949. Television programs are presented over KNOE-TV in Monroe, where the first program was presented in January 1954. Both radio and television programs are done in cooperation with Radio and Television Facilities of the Department of Speech.

The Department also sponsors and encourages the Tech Forestry Club, which furnishes social and professional contact for all forestry students and faculty.

## EXPENSES

In addition to the regular collegiate expenses listed in the main catalogue and the minor incidental costs of some laboratory supplies, each student is required to purchase for use during his junior and senior year the following: a drawing outfit, slide rule, set of aerial photographs, pocket stereoscope, and a hand lens. These must be of a quality approved by the Department, and altogether will cost about $50.00.

It is not always possible to arrange all field trips within the scheduled laboratory hours which in some cases means

leaving the campus earlier and returning later than the published schedule. Arrangements for lunches, the purchasing of meals, and the payment of lodging in those few instances where overnight trips are necessary is the responsibility of the individual student. During the senior year, when these expenses are heaviest, twenty to forty dollars is needed. The College furnishes transportation for all field and laboratory trips at no expense to the student.

All students should have free access to, or possess, a typewriter for the purpose of preparing laboratory and other reports.

It is recommended, but not required, that each student have his own camera for use on field trips and for the special work done in photography during the summer camp. In addition to regular summer session expenses, a fee of $10.00 is charged each student who attends the summer camp.

Each student registering for any forestry course involving field laboratory work should have, for his own protection, an accident insurance policy. Policies are available during registration to all college students for approximately $2.75 per semester.

## SCHOLARSHIPS AND STUDENT ASSISTANTS

The Kellogg-Crandall Forestry Scholarship is awarded annually to a selected high school graduate of Ouachita Parish, Louisiana, who wishes to pursue a 4-year forestry course in the Department. It pays tuition, registration fees, books and supplies during the 4-year program.

The Continental Can Company Forestry Scholarship is awarded annually to a selected high school graduate of North Louisiana-South Arkansas. The winner can pursue the 4-year forestry program at Louisiana Polytechnic Institute or at Louisiana State University. The scholarship pays $1,000.00 annually for the four years.

A limited number of openings for student assistants is available each year. These are jobs which allow students to work in the Department and earn part time pay while attending school.

## DESCRIPTION OF FORESTRY COURSES

**401: General Forestry.** 0-3-3*. An introduction to forestry. A general survey of the five fields of forestry.

**502: Forest Protection.** 3-2-3. Prerequisite, Forestry 401. The principles and application underlying the forest protection problem with special emphasis on forest fires.

* First number, laboratory hours per week; second, lecture hours per week; third, semester hours.

503: **Farm Forestry.** 3-2-3. Prerequisite, sophomore standing. For non-forestry students. A study of forest practices and their application in correlation with farm ownerships and the management of small tracts of timber.

505: **Dendrology.** 3-2-3. Prerequisite, Botany 401 and Forestry 401. The identification, classification, characteristics, and distribution of the principal forest trees of the United States, with particular emphasis on coniferous species.

506: **Dendrology.** 3-2-3. A continuation of Forestry 505, with particular emphasis on hardwood species and spring and summer characteristics.

601: **Foundations of Silviculture.** 3-2-3. Prerequisite, junior standing in Forestry, and Botany 520. The basic principles in silviculture. Site factors influencing the development and growth of trees. The development and life of forest community. Forest types. Effects of the forest on environment, wildlife, and mankind.

602: **Practice of Silviculture.** 3-2-3. Prerequisite, Forestry 601. Forest cutting systems in relation to natural regeneration. Genetical considerations for improvement of future stands. Methods of treatment of forest for improvement of growing conditions and obtaining products of higher quality.

606: **Forest Mensuration.** 3-2-3. Prerequisite, junior standing in Forestry, and Mathematics 401 and 402. The principles of measuring tree and forest volume, growth, yield, and products; and the uses to which this information may be applied. Special work in this course includes a study of aerial photographs and statistics.

610: **Seeding and Planting.** 3-2-3. Prerequisite, Forestry 601. Establishing of forest by artificial means. Principles of forest genetics. Vegetative propagation. Tree seed. Forest nursery. Seeding and planting of forest.

615: **Forest Mensuration.** 3 credit hours, summer camp. Execution of forest surveys; techniques of growth measurement; determination of volumes of trees and stands.

616: **Forest Engineering.** 3 credit hours, summer camp. Property surveys; topographic mapping; lay-out of forest roads and trails; timber structures.

617: **Forest Ecology.** 1 credit hour, summer camp. Environmental factors and their influence on the formation of different types of forest trees. Treatment of pine and hardwood stands.

618: **Forest Genetics.** 1 credit hour, summer camp. Inheritable characteristics of trees and the methods for improving forest.

619: **Aerial Photo-Interpretation.** 1 credit hour, summer camp. Interpretation and application of aerial photographs in the forest.

701, 702: **Forest Management.** 3-2-3 each. Prerequisite, completion of junior year summer camp. The need for forest management and its underlying principles, and the preparation of management plans. Emphasis is placed upon management of both Southern pines and Southern hardwoods.

703: **Forest Finance.** 0-3-3. The economic and financial considerations applying to forestry.

704: **Farm Forestry.** 3-2-3. Prerequisite, Forestry 615. A review of the basic principles applicable to the successful management of small forest holdings.

**705: Identification, Properties, and Uses of Wood.** 3-2-3. Prerequisite, junior standing in Forestry and Forestry 506. A study of the identification, properties, and uses of wood with special emphasis on commercially important species of the South.

**706: Harvesting and Manufacturing (Lumber).** 3-2-3. Prerequisites, Forestry 705 and 707. The principles and practices of harvesting the forest crop and the manufacture of lumber.

**707: Forest Products.** 3-2-3. Prerequisite, completion of Junior Year summer camp. The uses of the forest crop other than lumber and its conversion into finished commodities.

**708: Seasoning and Preservation.** 3-2-3. Prerequisites, Forestry 705 and 707. Theory and practice of air seasoning and kiln drying of forest products. The basis of wood preservation, preservatives, and various methods of application.

**709: Forest Economics.** 0-3-3. Prerequisite, completion of junior year summer camp. Forests and their relation to economic, industrial, and social problems.

**710: Forest Policy.** 0-3-3. Prerequisite, Forestry 709. The basic principles and policies of federal, state, and private forestry.

**711: Forest Recreation.** 0-3-3. Use of forests and other wild lands for recreation. Historical development, objectives, and problems.

# SCHOOL

# OF

# ARTS AND SCIENCES


JOHN B. WILSON, DEAN

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# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Tues., May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# OFFICERS OF INSTRUCTION

## HEADS OF DEPARTMENTS

ART: F. Elizabeth Bethea— B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1926)

CHEMISTRY: Charles Hooper Smith — B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University. (1940)

ENGLISH AND FOREIGN LANGUAGES: H. J. Sachs—Ph.B., M.A., University of Chicago; Ph.D., George Peabody College. (1929)

JOURNALISM: Kenneth F. Hewins—B.A., M.A., Indiana University. (1929)

MATHEMATICS: W. B. Temple—B.A., Louisiana College; M.A., Louisiana State University; Ph.D., University of Texas. (1948)

MUSIC: LaVerne E. Irvine—B.A., University of Pittsburgh; M.A., University of Pennsylvania. (1938)

PHYSICS: Horace Ewing Ruff, Jr.—B.S., Hendrix College, M.S., Louisiana State University; Ph.D., Iowa State College. (1938)

SOCIAL SCIENCES: Garnie W. McGinty—B.A., Louisiana State Normal College; M.A., George Peabody College; Ph.D., University of Texas. (1928)

SPEECH: Paul J. Pennington — B.A., Henderson State Teachers College; M.A., Oklahoma University; Ph.D., Louisiana State University. (1952)

ZOOLOGY: Roland Abegg—B.A., University of Michigan; M.S., Ph.D., Louisiana State University. (1959)

## PROFESSORS

Roland Abegg, *Professor of Zoology*—B.A., University of Michigan; M.S., Ph.D., Louisiana State University. (1959)

Francis O. Adam, Jr., *Professor of Spanish*—B.A., William and Mary College; M.L., University of Mexico; Ph.D., University of Illinois. (1937)

Francis L. Afeman, *Professor of Zoology*—B.S. Southwestern Louisiana Institute; M.S., Louisiana State University. (1934)

F. Elizabeth Bethea, *Professor of Art*—B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1926)

Marshall E. Bretz, *Professor of Music*—B.S., West Chester State Teachers College; M.S.M., S.M.D., Union Theological School of Music. (1944)

M. Frances Fletcher, *Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., University of Virginia; Ph.D., Louisiana State University. (1955)

Wallace Herbert, *Professor of Mathematics*—B.S., Ouachita College; M.S., Louisiana State University; Ed.D., Oklahoma A. and M. College. (1942)

Kenneth F. Hewins, *Professor of Journalism*—B.A., M.A., Indiana University. (1929)

LaVerne E. Irvine, *Professor of Music*—B.A., University of Pittsburgh; M.A., University of Pennsylvania. (1938)

T. W. Ray Johnson, *Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1938)

Grady E. Jones, *Professor of Mathematics*—B.I., B.S., Louisiana Polytechnic Institute; M.A., George Peabody College. (1938)

Walter E. Koss, *Professor of Mathematics*—A.B., M.A., University of Alabama; Ph.D., University of Illinois. (1957)

Garnie W. McGinty, *Professor of History*—B.A., Louisiana State Normal College; M.A., George Peabody College; Ph.D., University of Texas. (1928)

Mary W. Moffett, *Professor of Art*—B. Design, H. Sophie Newcomb College; M.A., Columbia University. (1928)

Robert W. Mondy, *Professor of History*—B.A., Louisiana Polytechnic Institute; M.A., Ph.D., University of Texas. (1936)

John W. Morton, Jr., *Professor of Chemistry*—B.S., Southern Methodist University; Ph.D., Iowa State College. (1954)

Paul J. Pennington, *Professor of Speech*—B.A., Henderson State Teachers College; M.A., Oklahoma University; Ph.D., Louisiana State University. (1952)

Horace Ewing Ruff, Jr., *Professor of Physics*—B.S., Hendrix College; M.S., Louisiana State University; Ph.D., Iowa State College. (1938)

H. J. Sachs, *Professor of English*—Ph.B., M.A., University of Chicago; Ph.D., George Peabody College. (1929)

Henry F. Schroeder, *Professor of Mathematics*—B.A., M.S., Louisiana State University. (1931)

Ernest M. Shirley, *Professor of Mathematics*—B.S., Louisiana State University; M.A., University of Arkansas. (1926)

Charles Hooper Smith, *Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University. (1940)

**Eugenia H. Smith, *Professor of French*—B.A., University of Texas; M.A., Southern Methodist University. (1928)

Frellsen F. Smith, *Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., University of Texas. (1938)

Lorimer E. Storey, *Professor of Political Science*—B.A., Louisiana State Normal College; M.A., Louisiana State University. (1943)

W. B. Temple, *Professor of Mathematics*—B.A., Louisiana College; M.A., Louisiana State University; Ph.D., University of Texas. (1948)

Robert O. Trout, *Professor of Geography and Sociology*—B.A., Louisiana Polytechnic Institute; M.A., Ph.D., Louisiana State University. (1947)

Mildred F. Walker, *Professor of English*—B.A., Cornell College; M.A., Columbia University. (1929)

Scott M. Weathersby, *Professor of Zoology*—B.A., Louisiana College; M.S., Louisiana State University. (1938)

John B. Wilson, *Professor of English*—A.B., Ouachita College; M.A., University of South Carolina; Ph.D., University of North Carolina. (1954)

John D. Winters, *Professor of History*—B.A., M.A., Louisiana State University. (1948)

## ASSOCIATE PROFESSORS

Wilma Baugh, *Associate Professor of Speech*—B.S., Missouri State Teachers College; M.A., Northwestern University. (1946)

George Paul Bonner, *Associate Professor of Physics*—B.S., Louisiana Polytechnic Institute; M.S., Florida State University. (1950-1952) (1956)

Harry Matthew Brown, *Associate Professor of English*—Th.B., Cleveland Bible College; A.B., Baldwin-Wallace College; M.A., Ph.D., Western Reserve University. (1956)

*William H. Brumage, *Associate Professor of Physics*—B.S., M.S., Oklahoma A. and M. College. (1952)

A. Z. Butler, *Associate Professor of English*—B.A., University of South Carolina; M.A., Vanderbilt University. (1948)

Robert L. Cason, Jr., *Associate Professor of Physics*—B.S., Southeastern Louisiana College; M.S., Louisiana State University. (1948)

Duchein A. Cazedessus, *Associate Professor of Music*—M.S., Louisiana State University; M.M., Manhattan School of Music. (1949)

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**Indefinite leave
* On leave, 1960-61

Charles C. Chadbourn, Jr., *Associate Professor of English*—B.A., Union College; M.A., Columbia University; Ph.D., Syracuse University. (1955)

Edith M. Cotton, *Associate Professor of Music*—B.A., University of Minnesota; M.A., Northwestern University. (1943)

James W. DeMoss, Jr., *Associate Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1948)

J. Edward Dowdey, *Associate Professor of Physics*—B.S., M.S., Ph.D., University of Texas. (1959)

Robert Elioff, *Associate Professor of Physics*—B.A., Louisiana Polytechnic Institute; M.S., University of Florida. (1947)

Winnie D. Evans, *Associate Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., George Peabody College. (1927)

Rudolph Fiehler, *Associate Professor of English*—A.B., Valparaiso University; M.A., Marquette University; Ph.D., University of Texas. (1956)

Lester M. Garrison, *Associate Professor of Mathematics*—B.S., Central Missouri State College; M.A., University of Missouri; M.Ed., George Peabody College. (1943)

Walter J. Harman, *Associate Professor of Zoology*—B.S., M.T., Louisiana Polytechnic Institute; M. A., University of Arkansas; Ph.D., University of Illinois. (1950)

Mark Randolph Harris, *Associate Professor of Art*—B.A., Louisiana Polytechnic Institute; M.A., Columbia University. (1953)

Doris Burd Haskell, *Associate Professor of Music*—New England Conservatory of Music; B.M., M.M., Chicago Conservatory of Music. (1926)

Hollis C. Hearne, *Associate Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.Ed., Louisiana State University. (1946)

David E. Johnson, *Associate Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.A., Ph.D., Alabama Polytechnic Institute. (1954)

S. S. Kilgore, *Associate Professor of Zoology*—A.B., Union College; M.S., Stetson University. (1952)

Dwight A. Lee, *Associate Professor of English*—A.B., B.S., Southwest Missouri State; M.A., Ph.D., University of Missouri. (1957)

Jack B. Martin, Jr., *Associate Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; M.A., University of Texas. (1947)

John Milstead, *Associate Professor of English*—B.S., University of New Mexico; M.A., State University of Iowa; Ph.D., University of Wisconsin. (1958)

Selma Hicks Patton, *Associate Professor of Chemistry*—LL.B.,B.A., University of Louisville; M.S., Ph.D., Purdue University. (1956)

Oneil J. Richard, *Associate Professor of French*—B.A., Southwestern Louisiana Institute; M.A., McGill University; Ph.D., Tulane University. (1955)

Charles Nelson Robinson, *Associate Professor of Chemistry*—B.S., Maryville College; M.S., Ph.D., University of Tennessee. (1956)

Herbert Edwin Shadowen, *Associate Professor of Zoology*—B.A., Berea College; M.S., University of Kentucky; Ph.D., Louisiana State University. (1955)

Joe G. Sheppard, *Associate Professor of Music*—B.S., University of Texas; M. Mus. Ed., Vandercook College of Music. (1951)

Robert C. Snyder, *Associate Professor of English*—B.S., Alabama State Teachers College; M.A., Western Kentucky State Teachers College. (1947)

Arthur W. Stone, *Associate Professor of Speech*—A.B., Hiram College; M.A., Western Reserve University. (1947)

Margaret Sumrall, *Associate Professor of Mathematics*—B.A., Mississippi State College for Women; M.A., George Peabody College. (1955)

Robert Orren Sutton, *Associate Professor of Mathematics*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1943)

Kathleen DeCou Thain, *Associate Professor of French and Spanish*—B.A., Baylor University; M.A., University of Texas. (1936)

William Y. Thompson, *Associate Professor of History*—B.A., University of Alabama; M.A., Emory University; Ph.D., University of North Carolina. (1955)

William G. Trawick, *Associate Professor of Chemistry*—B.S., Ph.D., Georgia Institute of Technology. (1958)

Phillip A. Walker, *Associate Professor of History*—B.A., University of North Carolina; M.A., Emory University; Ph.D., University of North Carolina. (1958)

Mary Elaine Wallace, *Associate Professor of Music*—B.F.A., Nebraska State Teachers College; M.S., University of Illinois. (1954)

## ASSISTANT PROFESSORS

Edwin Peter Axten, *Assistant Professor of Sociology*—B.A., Drake University; M.A., University of Iowa. (1959)

Louise L. Brooks, *Assistant Professor of Speech*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1954)

Eugene P. Burton, *Assistant Professor of Mathematics*—B.S., Henderson State Teachers College; M.A., University of Arkansas. (1955)

Annis Cawthon, *Assistant Professor of Mathematics*—B.A., M.S., Louisiana Polytechnic Institute. (1959)

T. H. Dosher, *Assistant Professor of Journalism*—B.S., Louisiana Polytechnic Institute. (1958) (1960)

Lucile P. Folk, *Assistant Professor of English*—A.B., Grenada College; M.A., George Peabody College. (1954)

Jackie B. Garner, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1957)

Jimmie D. Gilbert, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1958)

Martin Goldsworth, *Assistant Professor of Mathematics*—B.S., University of Houston; M.S., Alabama Polytechnic Institute, (1959)

Cora A. Hoffpauir, *Assistant Professor of Art*—B.F.A., M.Ed., University of Texas. (1958)

Eugenia M. Johnson, *Assistant Professor of English*—B.S., University of Oklahoma; M.A., Oklahoma State University. (1955) (1958)

Johnny R. Johnson, *Assistant Professor of Mathematics*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Alabama Polytechnic Institute. (1958)

George Edward Jones, *Assistant Professor of English*—B.A., M.A., East Texas State Teachers College. (1954)

Bettye King, *Assistant Professor of English*—B.A., Louisiana Polytechnic Institute; M.A., University of Texas. (1953)

John R. Luce, *Assistant Professor of Music*—B.M., University of Texas; M.M., University of Michigan; Ed.D., University of Nebraska. (1958)

Edward Graham Luck, *Assistant Professor of Speech*—B.A., M.A., Louisiana State University. (1957)

Harry Richard Mahood, *Assistant Professor of Political Science*—B.A., M.A., University of Oklahoma; Ph.D., University of Illinois. (1960)

Louise R. Morgan, *Assistant Professor of English and Foreign Languages*—B.A., University of Texas; M. A., Louisiana State University. (1938) (1940) (1943) (1946) (1949) (1950)

Richard M. Morton, *Assistant Professor of Art*—B.A., Oklahoma City University; M.A., University of Tulsa. (1960)

Edward H. Moseley, *Assistant Professor of History*—B.A., M.A., University of Alabama. (1960)

Ellis Sandoz, *Assistant Professor of Political Science*—B.A., M.A., Louisiana State University. (1959)

John Sutter, *Assistant Professor of Chemistry*—A.B., Washington State University; M.S., Ph.D., Tulane University. (1960)

Alfred E. Tellinghuisen, *Assistant Professor of Music*—B.M., Ed., North Central College; M.M., American Conservatory of Music. (1954)

John C. Trisler, *Assistant Professor of Chemistry*—B.S., Louisiana Polytechnic Institute; Ph.D., Texas Technological College. (1959)

## INSTRUCTORS

James K. Brewer, *Instructor of Mathematics*—B.S., Ouachita College; M.S., Louisiana State University. (1960)

Mary M. Doherty, *Acting Instructor of English*—B.S., M.A. in Ed., Louisiana Polytechnic Institute. (1959)

Barney W. Hart, *Acting Instructor of Physics*—B.S., M.S., Louisiana Polytechnic Institute. (1960)

Kathryn M. Jenkins, *Acting Instructor of English*—B.A., Louisiana Polytechnic Institute. (1959)

Clifton Benson Love, Jr., *Acting Instructor of Chemistry*—B.S., Louisiana Polytechnic Institute. (1960)

*Mary Dickard Rouse, *Instructor of Art*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1956)

Philip Shea, *Instructor of Geography*—B.A., Middlebury College; M.A., Michigan State University. (1960)

*Martha I. Strayhorn, *Instructor of English*—B.A., Murray State College; M.A., George Peabody College. (1957)

*On Leave, 1960-61

## GRADUATE ASSISTANTS
## SCHOOL OF ARTS AND SCIENCES
1960-61

*Chemistry*

Harold Brown
Thomas J. Mewbourne
Clifford E. Pugh
Charles M. Ramsdell
Gretchen Ridge

*Physics*

J. D. Alexander
R. O. Corley
A. H. DeGroat
P. B. Stephenson
Wallace Teague
L. B. Thorn

*Zoology*

Bobby J. Gough

*Mathematics*

Bertrand O. Boyd
Donald Daniel
Freddie Flowers
Alton L. Hare
Carroll Head
Rita Kolb
Alfred McKinney
William Walton
Charles Tabor

# FACULTY COMMITTEES FOR 1960-61

## SCHOOL OF ARTS AND SCIENCES

ADMINSTRATIVE CABINET: Roland Abegg, F. Elizabeth Bethea, K. F. Hewins, L. V. E. Irvine, G. W. McGinty, Paul Pennington, H. E. Ruff, H. J. Sachs, Charles H. Smith, W. B. Temple, John B. Wilson.

LIBRARY: Wilma Baugh, F. Elizabeth Bethea, K. F. Hewins, J. E. Dowdey, W. J. Harman, J. R. Johnson, J. R. Luce, J. W. Morton, H. J. Sachs, William Y. Thompson, John B. Wilson.

SCHOLARSHIPS: Marshall Bretz, Robert L. Cason, C. C. Chadbourn, Mark R. Harris, K. F. Hewins, Edward Luck, G. W. McGinty, Charles Smith, Henry F. Schroeder, Scott Weathersby, John B. Wilson.

# SCHOOL OF ARTS AND SCIENCES

*JOHN B. WILSON, Dean*

## PURPOSE

The purpose of the School of Arts and Sciences may be stated as follows: (1) to provide a broad, general education for those who desire this rather than a more specialized, technical education; (2) to offer the core courses common to many curricula of the college, such as English, mathematics, foreign languages, and natural sciences; (3) to provide pre-professional training for those students who intend to study law, medicine, theology, pharmacy, or dentistry; (4) to assist in the preparation of prospective teachers who desire to major in and teach such subjects as art, English, foreign language, mathematics, natural science, social science, and music; and (5) to provide specialized training for vocations in such fields as commercial art, chemistry, journalism, music, social welfare, and medical technology.

In general, the student in the School of Arts and Sciences is required to acquaint himself with the main fields of intellectual interest and in addition to acquire, through his major study, a thorough knowledge of some special field. Thus, he may obtain a liberal education, which will prove invaluable to him as preparation for a business or professional career as well as for richer and better living.

## DEPARTMENTS AND CURRICULA

The School of Arts and Sciences includes the departments of Art, Chemistry, English and Foreign Languages, Journalism, Mathematics, Music, Physics, Social Sciences, Speech, and Zoology. It offers curricula leading to the regular degrees of bachelor of arts and bachelor of science and to the more specialized degrees of bachelor of music and bachelor of science in a special subject.

The degree of Master of Science is offered in the fields of chemistry, geology, physics, mathematics, and zoology.

The courses for the regular B.A. and B.S. degrees are much the same for the first two years and are mainly of a basic or general character. During his last two years in college, or earlier, the student is required to specialize, or major, in a field of study and to choose his minor field, subject to the approval of the head of the department of his major subject and the dean of the School. If he majors in a language (English, French, Spanish, etc.) or a social science (history, sociology, etc.), or a fine art (art, music, etc.), he is awarded the B.A. degree on completion of the

curriculum. If he majors in science (chemistry, mathematics, zoology, etc.), he is awarded the B.S. degree. If he takes a specialized curriculum, he is awarded the B.S. degree in the special subject taken.

The curriculum for the B.A. degree or the general B.S. degree usually requires 130 semester hours for completion, including a major of 30 semester hours and a minor of 21.

The curriculum for the B.S. degree in a special subject usually requires more work in the special subject than does the general curriculum, and permits fewer electives, on account of the vocational use to be made of the special subject.

The School of Arts and Sciences also provides pre-professional curricula which include the subjects required for entrance to dental, law, or medical school. Students who satisfactorily complete the first year of work in an accredited medical, dental, or law school, and who have previously finished the prescribed pre-professional curriculum in medicine, dentistry, or law at Louisiana Polytechnic Institute, may receive the bachelor's degree from this institution provided the usual academic standards have been maintained.

## SUBJECTS OF INSTRUCTION

The subjects of instruction in the School of Arts and Sciences are art, chemistry, commercial art, English, French, geography, German, history, interior decoration, journalism, mathematics, medical technology, music, philosophy, physics, political science, sacred music, sociology, Spanish, speech, and zoology.

## ENTRANCE REQUIREMENTS

An applicant for admission to the freshman class of the School of Arts and Sciences must have been graduated with not fewer than 15 acceptable units from a four-year course in an accredited secondary school or must attest an equivalent preparation.

Students taking the Mathematics Curriculum in the School of Arts and Sciences or the School of Education who have not completed high school plane geometry must take for credit Mathematics 403, Plane and Solid Geometry.

## GRADUATION REQUIREMENTS

The candidate for a degree in the School of Arts and Sciences is required to complete one of the curricula given on the pages which immediately follow, and earn at least twice as many quality points as there are hours in his

curriculum; and he must comply with such other college requirements as are made of all candidates for graduation.

Before choosing a curriculum he should read the foregoing paragraphs under "School of Arts and Sciences" which describe the curricula offered in this School. The student who has decided on his major will begin that curriculum which provides a major in his chosen subject. Those students who have not decided on their major should register in the Academic Curriculum inasmuch as the subjects included in it are of a basic character and are required in several college curricula.

### GRADUATE DEGREES

By action of the State Board of Education on December 17, 1957, January 31, 1958, and April 3, 1958, Louisiana Polytechnic Institute was authorized to offer courses and curricula leading to the master's degree in certain fields. Requirements for the degree of Master of Science in chemistry, geology, mathematics, physics, and zoology are listed under "Graduate Curricula" in the following section of the catalog.

## Curricula

### TWO-YEAR ACADEMIC OR GENERAL CURRICULUM

Dean J. B. Wilson, Adviser

This two-year curriculum is composed of basic general courses and is designed mainly for those students who have not decided what degree they will work toward but wish to take courses which may be applied on the curriculum they may decide upon later. A student who, after he has completed this curriculum, wishes to take a degree will select one of the curricula given on the following pages and fulfil the requirements which it contains.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| Foreign Language (French, German, or Spanish) | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General, or 401, 402: College Algebra, Trigonometry | 6 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Orientation | 1 | |
| Physical Education (Activity courses) | 2 | |
| Total semester hours | | 31 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign Language (the one already begun) | 6 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 | |
| Physical Education (activity courses) | 2 | |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government, European Governments | 6 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 31 |
| Total semester hours in curriculum | | 62 |

## DEGREE CURRICULUM IN GENERAL STUDIES

After completing the two-year Academic Curriculum the student will normally transfer to a degree curriculum offered by the School of Arts and Sciences or one of the other five schools at Louisiana Polytechnic Institute.

If, however, he wishes to elect a major in some other school than Arts and Sciences, yet follow a program of general studies rather than a technological, vocational, or specialized curriculum, he may do so, as follows: (1) by securing the approval of the dean of the school offering the major desired; (2) by following requirements for a major and a minor as stipulated by the dean of that school; (3) by electing enough additional subjects approved by the Dean of the School of Arts and Sciences to complete a total of not less than 130 semester hours.

While pursuing this Curriculum in General Studies the student will be registered in the School of Arts and Sciences, and upon completion of all requirements he will be granted the degree of Bachelor of Arts in Liberal Arts, upon recommendation of the Dean of the School of Arts and Sciences.

## GENERAL STUDIES: GEOLOGY

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN GEOLOGY)

Dr. R. M. Allen, Adviser

This curriculum is planned to give a broad and fundamental training in the major areas of geology, with a background of mathematics, physics, chemistry, and zoology. Recommended for those students planning for a professional career in Geology and the Earth Sciences.[1]

### FRESHMAN YEAR

| First Semester | Semester Hours |
|---|---|
| Chemistry 401: General | 4 |
| English 401: Composition | 3 |
| Geology 411: Physical | 3 |
| Geology 421: Laboratory (Physical) | 1 |
| Math 401: Algebra | 3 |
| [2]Physical Education | 1 |
| Orientation | 1 |
| Total Semester Hours | 16 |

| Second Semester | Semester Hours |
|---|---|
| Chemistry 402: General | 4 |
| English 402: Composition | 3 |
| Geology 412: Historical | 3 |
| Geology 422: Laboratory (Historical) | 1 |
| Math 402: Trigonometry | 3 |
| Physical Education | 1 |
| Total Semester Hours | 15 |

### SOPHOMORE YEAR

| First Semester | Semester Hours |
|---|---|
| English 501 or 502: Literature | 3 |
| Geology 509: Mineralogy | 3 |
| Math 540: Anal. Geom. & Calculus | 6 |
| Zoology 401: General Zoology | 4 |
| Physical Education | 1 |
| Total Semester Hours | 17 |

| Second Semester | Semester Hours |
|---|---|
| Geography 503: Introductory | 3 |
| Geology 510: Mineralogy | 3 |
| History 401: Western World | 3 |
| Zoology 402: General Zoology | 4 |
| Humanities Elective | 3 |
| Physical Education | 1 |
| Total Semester Hours | 17 |

JUNIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Geology 511: Petrology | 3 |
| Geology 602: Paleontology | 3 |
| Foreign Language 401: | 3 |
| Physics 509: Elem. Physics | 4 |
| Speech 675: Oral Communication | 2 |
| History 402: Western World | 3 |
| Total Semester Hours | 18 |

| Second Semester | Semester Hours |
|---|---|
| Geology 505: Field Methods | 2 |
| Geology 604: Paleontology | 3 |
| Geology 605: Prin. of Strat. & Sed. | 3 |
| Geology 615: Structural | 3 |
| Foreign Language 402: | 3 |
| Physics 510: Elem. Physics | 4 |
| Total Semester Hours | 18 |

SUMMER CAMP

| | |
|---|---|
| Geology 620: Summer field course | 4-6 |

SENIOR YEAR

| First and Second Semester | Semester Hours |
|---|---|
| English 603: Technical | 3 |
| Foreign Language 501 and 502: | 6 |
| Geology 712: Geomorphology | 3 |
| Humanities elective | 3 |
| Geology or Minor Science | 6 |
| Minor Science electives | 12 |
| Total Semester Hours | 33 |
| Total Hours in Curriculum | 138 |

[1] A program of courses leading to the Bachelor of Science in Liberal Arts degree with a major in Geology may be planned by consultation between the adviser and those students desiring a broader background in liberal arts.

[2] Only 4 semester hours of P.E. Activity courses may count toward graduation.

## GENERAL STUDIES: HEALTH AND PHYSICAL EDUCATION

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

Adviser: G. B. Hogg

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| History 401, 402: Western World | 6 |
| Mathematics 405, 406: General Mathematics or 401, 402: College Algebra, Trigonometry | 6 |
| Orientation | 1 |
| Physical Education: 401, 402: Sports Activities or 403, 404: Team Sports (Women) | 2 |

Physical Education 507: Elementary Instruction in Minor Sports ..... 2
Science: Zoology 400: Introductory and Botany 401: General ..... 8
Total semester hours ..... 31

SOPHOMORE YEAR — Semester Hours

English 501, 502: English and American Literature ..... 6
History 501, 502: U.S. History, or Political Science 501, 602: U. S. Government, European Governments ..... 6
Physical Education: 501, 502: Sports Activities or 503, 504: Team Sports (Women) ..... 2
Physical Education 604: Organization and Administration of Intramural Sports or 613: Technique in Teaching Team Sports (Women) ..... 3
Physical Education 610: History and Principles of Physical Education ..... 3
Physics 505, 506: Descriptive ..... 6
or Physics 509-510 or Chemistry 401-402 ..... 8
Psychology 501: General ..... 3
Speech 675 or 676: Oral Communication ..... 2
Total semester hours ..... 31

JUNIOR YEAR — Semester Hours

Physical Education 500: Health and Safety Education ..... 3
Physical Education 620: Administration and Organization of Health and Physical Education ..... 2
Physical Education 621, 622: First Aid ..... 2
Zoology 520: Personal and Community Hygiene and Sanitation 3
Zoology 525: Human Anatomy and Physiology ..... 3
Electives: Enough to complete a major in Physical Education with emphasis on health or safety or recreation and a minor in one field of science, as chemistry, physics, botany, or zoology; or one field of social science, as geography, history, sociology, or political science; or psychology. ..... 21
Total semester hours ..... 34

SENIOR YEAR — Semester Hours

Physical Education 626: Applied Anatomy and Kinesiology ..... 3
Electives: Enough to complete a major in Physical Education and a minor as specified in the final paragraph under the curriculum for the junior year. ..... 31
Total semester hours ..... 34
Total semester hours in curriculum ..... 130

## GENERAL STUDIES: PSYCHOLOGY

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Adviser: Dr. George C. Poret

FRESHMAN YEAR

First Semester — Semester Hours

English 401: Composition ..... 3
History 401: Western, or 501: American ..... 3
Zoology 400: Introductory ..... 4
Foreign Language (French, Spanish, or German) ..... 3
Physical Education (activity course) ..... 1
Orientation 401 ..... 1
Total semester hours ..... 15

Second Semester — Semester Hours

English 402: Composition ..... 3
History 402: Western World, or 502: American ..... 3
Foreign Language (one previously begun) ..... 3

| | |
|---|---|
| Botany 401: General | 4 |
| Psychology 501: General | 3 |
| Physical Education (activity course) | 1 |
| Total semester hours | 17 |

SOPHOMORE YEAR

| First Semester | Semester Hours |
|---|---|
| English 501: English Literature | 3 |
| Foreign Language (one previously begun) | 3 |
| *Mathematics 405: General, or 401: Algebra | 3 |
| Psychology 714: Dynamics of Human Adjustment | 3 |
| **Minor Field or elective | 3-4 |
| Physical Education (activity course) | 1 |
| Total semester hours | 16-17 |

| Second Semester | Semester Hours |
|---|---|
| English 502: American Literature | 3 |
| Foreign Language (one previously begun) | 3 |
| Mathematics 406: General, or 402: Trigonometry | 3 |
| Psychology 505: Child | 3 |
| Minor Field or elective | 3-4 |
| Physical Education (activity course) | 1 |
| Total semester hours | 16-17 |

JUNIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Sociology 501: General | 3 |
| Zoology 525: Anatomy | 3 |
| Psychology 601: Advanced | 3 |
| Psychology 604: Social | 3 |
| Minor Field or elective | 4 |
| Total semester hours | 16 |

| Second Semester | Semester Hours |
|---|---|
| Speech 410: Fundamentals, or 675: Oral Communication | 3-2 |
| Sociology 502: Social Problems | 3 |
| Psychology 722: Psychometrics | 3 |
| Psychology 603: Clinical | 3 |
| Minor Field or elective | 4-5 |
| Total semester hours | 16 |

SENIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Physics 505: Descriptive | 3 |
| Psychology 606: Abnormal | 3 |
| Psychology 609: Physiological | 3 |
| Minor Field or elective | 6-8 |
| Total semester hours | 15-17 |

| Second Semester | Semester Hours |
|---|---|
| Physics 506: Descriptive | 3 |
| Psychology 607: Experimental | 3 |
| Philosophy | 3 |
| Minor Field or elective | 6 |
| Total semester hours | 15 |
| Total Hours in the Curriculum | 130-132 |

*Minors in mathematics will take Mathematics 401-402.

**A minor shall consist of 24 hours to be chosen preferably from one of the following fields: botany, zoology, chemistry, physics, geography, history, political science, sociology, English, mathematics.

## ART CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS IN ART)

F. Elizabeth Bethea, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| History 401, 402: Western World | 6 | |
| Foreign language (French or Spanish) | 6 | |
| Art 401: Art Structure | 2 | |
| Art 411: Elementary Design | 2 | |
| Art 450, 451: Elementary Drawing | 4 | |
| Art 564A: Art Appreciation | 1 | |
| Art 470: Elementary Painting | 3 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| Social Science | 6 | |
| Art 510: Design | 3 | |
| Art 550: Advanced Drawing | 3 | |
| Art 566: Modern Painting | 3 | |
| Art 570: Oil Painting | 3 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 32 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Zoology 400, Botany 401, or Chemistry 407, 408; or Physics 505, 506 | 6-8 | |
| Minor subject | 6 | |
| Art 540, 541: Craft Survey | 6 | |
| Art 650. 651: Life Drawing | 4 | |
| Art 666, 667: Art History | 6 | |
| Electives | 7 | |
| Total Semester Hours | | 35 or 37 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Minor Subject | 6 | |
| Art 610: Advanced Design | 3 | |
| Art 750, 751: Life Drawing | 4 | |
| Art 670: Oil Painting | 3 | |
| Electives in Art (600 or 700) | 6 | |
| Electives (600 or 700) | 12 | |
| Total Semester Hours | | 34 |
| Total Semester Hours in Curriculum | | 134 - 136 |

[1] See also under Art Department

[2] Only 4 semester hours of Physical Education Activity courses may count toward graduation.

## COMMERCIAL ART CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

F. Elizabeth Bethea, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Orientation 401 | 1 |
| English 401, 402: Composition | 6 |
| History 401, 402: Western World | 6 |
| Foreign Language (French or Spanish) | 6 |

| | | |
|---|---|---|
| Art 401, 411: Structure, Design | 4 | |
| Art 470: Water Color Painting | 3 | |
| Art 450, 451: Drawing | 4 | |
| Art 564A: Appreciation | 1 | |
| [2]P. E. (Activity Courses) | 2 | |
| Total semester hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English Literature, American Literature | 6 | |
| Foreign Language (French or Spanish) | 6 | |
| Science: Zoology 400, Botany 401; or Chemistry 407, 408; or Physics 505, 506 | 6-8 | |
| Art 510: Design | 3 | |
| Art 511: Lettering | 3 | |
| Art 550: Advanced Drawing | 3 | |
| Art 566: Modern Painting | 3 | |
| Art 570: Oil Painting | 3 | |
| [2]P. E. (Activity Courses) | 2 | |
| Total semester hours | | 35 or 37 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Minor Subject | 6 | |
| Economics or History | 6 | |
| Art 540, 645: Craft Survey, Display | 6 | |
| Art 650, 651: Life Drawing | 4 | |
| Art 666, 667: History of Art | 6 | |
| Electives (600 or 700) | 6 | |
| Total semester hours | | 34 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Minor Subject | 6 | |
| Art 610, 611: Advanced Design | 6 | |
| Art 670: Oil Painting | 3 | |
| Art 750, 751: Advanced Life Drawing | 4 | |
| Art Electives (600 or 700) | 6 | |
| English 632, or Speech 675 | 2-3 | |
| Electives (600 or 700) | 6 | |
| Total semester hours | | 33 or 34 |
| Total semester hours in curriculum | | 135 or 138 |

[1]See also under Art Department.

[2]Only 4 semester hours of P. E. Activity courses may count toward graduation.

## COMMERCIAL ART CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

F. Elizabeth Bethea, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation 401 | 1 | |
| English 401, 402: Composition | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405-406 or 6-8 hrs. science | 6-8 | |
| Art 401, 411: Structure, Design | 4 | |
| Art 470: Water Color Painting | 3 | |
| Art 450, 451: Drawing | 4 | |
| Art 564A: Appreciation | 1 | |
| [2]P. E. (Activity Courses) | 2 | |
| Total semester hours | | 33 or 35 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| Economics 515: Fundamentals | 3 |
| Accounting 510 (3), Marketing (3) | 6 |
| Art 510 and 511: Design and Lettering | 6 |
| Art 566 and 550: Modern Painting and Advanced Drawing | 6 |
| Art 570, 540: Oil Painting and Art Craft Survey | 6 |
| [2]P. E. (Activity Courses) | 2 |
| Total Semester Hours | 35 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Minor in Marketing (600-700) | 6 |
| Science | 4 |
| Art 610, 611: Advanced Design | 6 |
| Art 645: Display | 3 |
| Art 650, 651: Life Drawing | 4 |
| Art 666, 667: Art History | 6 |
| Electives (600-700) | 6 |
| Total Semester Hours | 35 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Minor in Marketing (600, 700 courses) | 6 |
| Art 670: Oil Painting | 3 |
| Art 750, 751: Life Drawing | 4 |
| Art Electives (600-700) | 6 |
| English 632 or Speech 675 | 3-2 |
| Electives (600-700) | 11 |
| Total Semester Hours | 32 or 33 |
| Total Semester Hours in Curriculum | 135-138 |

[1]See also under Art Department.

[2]Only 4 semester hours of P. E. Activity courses may count toward graduation.

## INTERIOR DECORATION CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF ARTS)

F. Elizabeth Bethea, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| French 401-402: Elementary | 6 |
| History 401, 402: Western World | 6 |
| Art 401, 411: Structure, Design | 4 |
| Art 450, 451: Drawing | 4 |
| Art 470: Water Color Painting | 3 |
| Art 564A: Appreciation | 1 |
| Orientation 401 | 1 |
| [2]P. E. (Activity Courses) | 2 |
| Total semester hours | 33 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| French 501, 502: Intermediate | 6 |
| History 501, 502: American | 6 |
| Art 510, 511: Design and Lettering | 6 |
| Art 550, 570: Advanced Drawing and Oil Painting | 6 |
| Art 566: Modern Painting | 3 |

| | |
|---|---|
| P. E. (activity) | 2 |
| Total Semester Hours | 35 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Science (Botany, Chemistry, Geology, Physics, Zoology) | 6-8 |
| Minor Subject | 6 |
| Art 540, 541: Art Craft Survey | 6 |
| Art 654, 655: Interior Design Housing | 6 |
| Art 666, 667: History | 6 |
| Electives | 6 |
| Total Semester Hours | 36 - 38 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Minor | 6 |
| English 632: | 3 |
| Speech 675 | 2 |
| Art 610, 611: Advanced Design | 6 |
| Art 656, 657: Housing | 6 |
| Art 670: Oil Painting | 3 |
| Electives (600-700) | 6 |
| Total Semester Hours | 32 |
| Total Semester Hours in Curriculum | 136 - 138 |

[1]See also under Art Department.

[2]Only 4 semester hours of P. E. Activity courses may count toward graduation.

## INTERIOR DECORATION CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

F. Elizabeth Bethea, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| Mathematics 405, 406: General | 6 |
| History 401, 402: Western World | 6 |
| Art 401, 411: Structure, Design | 4 |
| Art 450, 451: Drawing | 4 |
| Art 470: Water Color Painting | 3 |
| Art 564A: Appreciation | 1 |
| Orientation 401 | 1 |
| [2]P. E. (Activity Courses) | 2 |
| Total semester hours | 33 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| Accounting 510, Marketing (3) | 6 |
| Economics 515: Fundamentals | 3 |
| Art 510, 511: Design and Lettering | 6 |
| Art 540, 541: Craft Survey | 6 |
| Art 550: Advanced Drawing | 3 |
| Art 566, 570: Modern Painting and Oil Painting | 6 |
| Total Semester Hours | 36 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Science | 6-8 |
| Minor (Marketing chosen from 600 and 700 group) | 6 |
| Art 570: Oil Painting | 3 |
| Art 654, 655: Interior Design, Housing | 6 |
| Art 666, 667: History | 6 |

| | | |
|---|---|---|
| P. E. (activity) | 2 | |
| Electives (600-700) | 6 | |
| Total Semester Hours | | 35 - 37 |

SENIOR YEAR

| | Semester Hours | |
|---|---|---|
| Minor | 6 | |
| English 632 | 3 | |
| Speech 675 | 2 | |
| Art 610, 611: Advanced Design | 6 | |
| Art 656, 657: Housing | 6 | |
| Advanced Art Electives (600-700) | 4 | |
| Electives (600-700) | 6 | |
| Total Semester Hours | | 33 |
| Total Semester Hours in Curriculum | | 137 - 139 |

[1]See also under Art Department.

[2]Only 4 semester hours of P. E. Activity courses may count toward graduation.

## CHEMISTRY CURRICULUM[1]

### (LEADING TO THE B. S. DEGREE IN CHEMISTRY)

Dr. Charles H. Smith, Adviser

This curriculum is planned to give a broad and fundamental training in the major divisions of chemistry and their applications. The aim of the curriculum is to give the student thorough instruction by means of lectures, recitations, and laboratory practice, in the principles of inorganic, analytical, organic, physical and industrial chemistry. The modern conception of an education in chemistry includes a study of physics and a thorough knowledge of mathematics. Students who complete this curriculum will be prepared for industrial positions in chemical plants and for graduate work in the science.

FRESHMAN YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Chemistry 401: General Chemistry | 4 | |
| English 401: Composition | 3 | |
| History 501: American | 3 | |
| Mathematics 401: College Algebra | 3 | |
| Mathematics 402: Trigonometry | 3 | |
| Orientation | 1 | |
| [2]Physical Education (activity course) | 1 | |
| Total semester hours | | 18 |

| Second Semester | Semester Hours | |
|---|---|---|
| Chemistry 402: General Chemistry | 5 | |
| English 402: Composition | 3 | |
| History 502: American | 3 | |
| Mathematics 540: Calculus and Analytics I | 6 | |
| [2]Physical Education (activity course) | 1 | |
| Total semester hours | | 18 |

SOPHOMORE YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Chemistry 505: Quantitative Analysis | 4 | |
| German 401: Beginning German | 3 | |
| Mathematics 541: Calculus and Analytics II | 6 | |
| [2]Physical Education (activity course) | 1 | |
| Physics 501: General Physics | 4 | |
| Total semester hours | | 18 |

| Second Semester | Semester Hours | |
|---|---|---|
| Chemistry 506: Quantitative Analysis | 4 | |
| German 402: Beginning German | 3 | |
| [2]Physical Education (activity course) | 1 | |
| Physics 502: General Physics | 4 | |
| Political Science 501: American | 3 | |
| Speech 410: Principles of Speech | 3 | |
| Total semester hours | | 18 |

JUNIOR YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Chemistry 601, 603: Organic Chemistry, Lab. | 5 | |
| Chemistry 611, 613: Physical Chemistry, Lab. | 4 | |
| German 501: Intermediate | 3 | |
| Physics 630: Modern Physics | 4 | |
| Total semester hours | | 16 |

| Second Semester | Semester Hours | |
|---|---|---|
| Chemistry 602, 604: Organic Chemistry, Lab. | 5 | |
| Chemistry 612, 614: Physical Chemistry, Lab. | 4 | |
| English 502: American Literature | 3 | |
| German 502: Intermediate | 3 | |
| Electives | 3 | |
| Total semester hours | | 18 |

SENIOR YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Chemistry 702: Organic Qualitative | 3 | |
| Chemistry 700: Chemical Research | 1 | |
| Chemistry 723: Colloid Chemistry | 3 | |
| Chemistry 765: Optical Methods of Analysis | 3 | |
| Economics 515: Fundamentals of Economics | 3 | |
| English 603: Technical English | 3 | |
| Electives | 3 | |
| Total semester hours | | 19 |

| Second Semester | Semester Hours | |
|---|---|---|
| Chemistry 700: Chemical Research | 1 | |
| Chemistry 709: Organic Synthesis or Chemistry 712: Organic Spectroscopy | 3 | |
| Chemistry 766: Electrical Methods of Analysis | 3 | |
| Chemistry 720: Chemical Thermodynamics | 3 | |
| Electives | 5 | |
| Total semester hours | | 15 |
| Total semester hours in curriculum | | 140 |

[1]See also under Chemistry Department.
[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## CHEMISTRY CURRICULUM[1]

(LEADING TO THE B. S. DEGREE IN LIBERAL ARTS RATHER THAN TO THE B. S. IN CHEMISTRY)

Dr. Charles H. Smith, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Chemistry 401, 402: General | 9 |
| English 401, 402: Composition | 6 |
| History 401, 402: Western World | 6 |
| Mathematics 401, 402: Algebra, Trigonometry | 6 |
| Orientation | 1 |

| | | |
|---|---|---|
| [2]Physical Education (activity courses) | 2 | |
| Elective | 3 | |
| Total semester hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Chemistry 505, 506: Analytical | 8 | |
| English 501, 502: English and American Literature | 6 | |
| German 401, 402: Beginning German | 6 | |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government, European Governments | 6 | |
| Minor Subject | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 34 |

| JUNIOR AND SENIOR YEARS[3] | Semester Hours | |
|---|---|---|
| Chemistry 601, 602, 603, 604: Organic, Lab. | 10 | |
| Chemistry 611, 612, 613, 614: Theoretical and Physical, Lab. | 8 | |
| German 501, 502: Intermediate German | 6 | |
| Minor subject: enough to make a total of | 21 | |
| Electives: enough to make a total for the curriculum of | 140 | |
| Total semester hours in curriculum | | 140 |

[1]See also under the Department of Chemistry.

[2]Only 4 semester hours in Physical Education activity courses may count toward graduation.

[3]Students on this curriculum must, from time to time, consult the head of the department regarding choice of their minor subject and electives.

## ENGLISH CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. H. J. Sachs, Adviser

This curriculum allows the student a choice of minors in many of the subjects and divisions of the college. Consult the head of the department for advice and information regarding these minors.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| Foreign language (French, Spanish, or German) | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 401, 402: Algebra, Trigonometry, or 405, 406: General Mathematics | 6 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Orientation | 1 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 31 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government, European Governments | 6 | |
| Foreign language (the one already begun) | 6 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 | |
| [2]Physical Education (activity courses) | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Electives | 3 | |
| Total semester hours | | 34 |

| JUNIOR AND SENIOR YEARS[3] | Semester Hours | |
|---|---|---|
| Major: English 718, 722, 727, and 9 additional hours of English | 18 | |
| Minor: enough hours in a related subject, chosen with the approval of the head of the department, to make for the four years a total of | 21 | |
| Art 564: Art Appreciation | 2 | |
| Music 630: Music Appreciation | 2 | |
| Advised: Philosophy 601 | 3 | |
| Electives: enough to bring the semester hours in the curriculum to a total of | 130 | |
| Total semester hours in curriculum | | 130 |

[1]See also under Department of English and Foreign Languages.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

[3]Before the beginning of the junior year English majors must consult the head of the department for approval of their minor subject and electives.

## FRENCH CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. O. J. Richard, Adviser

This curriculum allows the students a choice of minors from many of the subjects and divisions of the college. Consult the department head for further information.

Students who enter Tech with high school credits in French will register as follows:

Those with one year of high school French will register in French 401; those with two years of high school French may register in French 501; those with three or more years of high school French should consult the department head before registration. Any student with two or more years of high school work may elect to begin studies in French with 401 and will receive credit toward graduation for any course successfully completed at Louisiana Tech.

**All students in French are advised to complete a year's sequence without any time interval between courses, and to take two years of required work in the language without any unnecessary interval between courses.**

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| French 401, 402: Beginning French. If French was taken in high school, see note above | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 401, 402: Algebra, Trigonometry, or 405, 406: General Mathematics | 6 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Orientation | 1 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 31 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| French 501, 502 (provided 401, 402 were taken first year) | 6 |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government, European Governments | 6 |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 |

| | | |
|---|---|---|
| [2]Physical Education (activity courses) | 2 | |
| Electives (prospective teachers take Psychology 501, 502) | 6 | |
| Total semester hours | | 34 |

| JUNIOR AND SENIOR YEARS[3] | Semester Hours | |
|---|---|---|
| Major: French 600, 601, 602, 620, 621, and enough hours in French courses numbered 551 and above to make for the four years a total of | 30 | |
| Minor: enough hours in a related subject, chosen with the approval of the head of the department, to make for the four years a total of | 21 | |
| Art 566: Modern Painting | 3 | |
| Music 630: Music Appreciation | 2 | |
| Electives: enough to make the total semester hours for the curriculum | 130 | |
| Total semester hours in the curriculum | | 130 |

[1]See also under Department of English and Foreign Languages.
[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.
[3]Before the beginning of the junior year majors in French must consult the head of the department for approval in their minor subject and electives.

## GEOGRAPHY CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. G. W. McGinty, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| Engineering 451: Drawing | 2 | |
| Foreign Language | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Total semster hours | | 33 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign Language (the one already begun) | 6 | |
| Geography 503, 525: Introduction, World | 6 | |
| History 501, 502: American History | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, Physics or Zoology) | 8 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Economics 501, 502: Principles of Economics | 6 | |
| Geography 526, 610: World Geography and La. Geography | 6 | |
| Geography | 6 | |
| Political Science | 6 | |
| Sociology 501, 660: Principles, Population | 6 | |
| [3]Electives | 4 | |
| Total semester hours | | 34 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Geography | 12 | |
| [3]Electives | 20 | |
| Total semester hours | | 32 |
| Total semester hours | | 133 |

[1]See also under Department of Social Sciences.
[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.
[3]A minor of 21 hours is required in the curriculum.

## HISTORY CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. G. W. McGinty, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| Foreign Language | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General, or 401, 402: Algebra and Trigonometry | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Geography | 3 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign Language (the one already begun) | 6 | |
| History 501, 502: American History | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, Physics or Zoology) | 8 | |
| Electives | 6 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Economics 501, 502: Principles of Economics | 6 | |
| History | 6 | |
| Political Science 501, 602: U. S. Government, European Governments | 6 | |
| Sociology 501, 502: Principles of Sociology | 6 | |
| Minor subject | 6 | |
| Total semester hours | | 30 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| History | 12 | |
| Minor subject | 14 | |
| Electives | 6 | |
| Total semester hours | | 32 |
| Total semester hours in curriculum | | 130 |

[1]See also under Department of Social Sciences.
[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## JOURNALISM CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Kenneth F. Hewins, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| Foreign language | 6 |

| | |
|---|---|
| History 401, 402: Western World | 6 |
| Mathematics 401, 402: Algebra, Trigonometry, or 405, 406: General Mathematics | 6 |
| Journalism 401: News Writing | 3 |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 |
| [2]Physical Education (activity courses) | 2 |
| Orientation | 1 |
| Total semester hours | 34 |

SOPHOMORE YEAR

| | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| Foreign language (the one already begun) | 6 |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government and European Governments | 6 |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 |
| [2]Physical Education (activity courses) | 2 |
| Electives | 3 |
| Total semester hours | 31 |

JUNIOR AND SENIOR YEARS[3]

| | Semester Hours |
|---|---|
| English 632 or 3 semester hours of English approved by head of the Journalism Department | 3 |
| Journalism: 28 semester hours in 600 courses | 28 |
| Minor: subject related to Journalism, chosen with the approval of the department head and dean, enough for the four years to make a total of | 21 |
| Electives: enough to bring total hours in curriculum to | 130 |
| Total semester hours in curriculum | 130 |

[1]See also under Journalism Department.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

[3]Students must consult the head of the department before the end of the sophomore year regarding their program of studies for the junior and senior years.

## MATHEMATICS CURRICULUM[1]

### (LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

Dr. W. B. Temple, Adviser

FRESHMAN YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemistry 401 | 4 | Chemistry 402 | 4 |
| Math 401 | 3 | English 402 | 3 |
| English 401 | 3 | Math 540 | 6 |
| Math 402 | 3 | Phys. Ed. (Activity) | 1 |
| Phys. Ed. (Activity) | 1 | History 402 | 3 |
| Orientation | 1 | | 17 |
| History 401 | 3 | | |
| | 18 | | |
| Total Hours in Freshman Year | 35 | | |

SOPHOMORE YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| English 501 | 3 | English 502 | 3 |
| Math 541 | 6 | Math 706 | 3 |
| Physics 501 | 4 | Physics 502 | 4 |
| Foreign Language | 3 | Foreign Lang. (One begun) | 3 |
| Phys. Ed. (Activity) | 1 | Math 616 | 3 |
| | 17 | Phys. Ed. (Activity) | 1 |
| | | | 17 |
| Total Hours in Sophomore Year | 34 | | |

JUNIOR YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| History 501 | 3 | History 502 | 3 |
| (Pol. Sci. 501: U. S. Govt.) | | (Pol. Sci. 602: European Gov. | |
| Foreign Lang. (One begun) | 3 | Foreign Lang. (One begun) | 3 |
| Math 618 | 3 | *Science Elective | 3 |
| *Science Elective | 3 | Other Electives | 6 |
| Other Electives | 6 | Math. Elective | 3 |
| | 18 | | 18 |
| Total Hours in Junior Year | 36 | | |

SENIOR YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Math Elective (above 700) | 3 | Math Elective (above 700) | 3 |
| Other Electives | 12 | Other Electives | 12 |
| | 15 | | 15 |
| Total Hours in Senior Year | 30 | | |
| Total | 135 | | |

*May be chosen from physics, chemistry, zoology, botany, geology, or certain engineering courses.

A minor subject should be chosen by first semester of junior year—see departmental requirements for minor.

Only four hours of Physical Education activity courses may count toward graduation.

Students majoring in mathematics who have credit for 60 or more semester hours in college (junior standing or higher) at the end of the spring semester, 1959-60, have the option of completing this new curriculum or proceeding under the old curriculum. Those with less than 60 hours must pursue the new curriculum.

## MEDICAL TECHNOLOGY CURRICULUM

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY)

Dr. Roland Abegg, Adviser

FRESHMAN YEAR

| First Semester | Semester Hours |
|---|---|
| Chemistry 401 or 407: General | 4-3 |
| English 401: Composition | 3 |
| Mathematics 405: General | 3 |
| Orientation | 1 |
| Physical Education (activity course) | 1 |
| Office Administration 501: Typing | 2 |
| Zoology 401: General | 4 |
| Total semester hours | 17 or 18 |

| Second Semester | Semester Hours |
|---|---|
| Chemistry 402 or 408: General | 4-3 |
| English 402: Composition | 3 |
| Mathematics 406: General | 3 |
| Physical Education (activity course) | 1 |
| Zoology 402: General | 4 |
| Zoology 540: Clinical Pathology | 3 |
| Total semester hours | 17 or 18 |

SOPHOMORE YEAR

| | |
|---|---|
| Chemistry 520: Organic | 4 |
| English 501: English Literature | 3 |
| Physical Education (activity course) | 1 |
| Speech 410: Principles of Speech | 3 |
| Zoology 641: Hematology | 4 |
| Zoology 542: Tissue and Basal | 2 |
| Total semester hours | 17 |

| Second Semester | Semester Hours |
|---|---|
| English 502: American Literature | 3 |
| Physical Education (activity course) | 1 |
| Psychology 501: General | 3 |
| Zoology 525: Human Anatomy and Physiology | 3 |
| Zoology 544: Parasitology | 3 |
| Zoology 643: Clinical Bacteriology | 4 |
| Total semester hours | 17 |

JUNIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Chemistry 651: Biochemistry | 4 |
| Foreign Language | 3 |
| History | 3 |
| Psychology 714: Dynamics of Adjustment | 3 |
| Zoology 748: Serology | 3 |
| Total semester hours | 16 |

| Second Semester | Semester Hours |
|---|---|
| Chemistry 652: Biochemistry | 4 |
| Foreign Language: (the one already begun) | 3 |
| Physics 509: Elementary or 505: Descriptive | 4 or 3 |
| Zoology 502: Vertebrate or 611, Embryology | 4 |
| Zoology 715: Medical Entomology | 3 |
| Total semester hours | 17 or 18 |

SENIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Foreign Language (the one already begun) | 3 |
| Physics 510: Elementary or 506: Descriptive | 4 or 3 |
| Zoology 747: Blood Chemistry | 3 |
| Zoology 750: Practice | 2 |
| Zoology 646: X-Ray | 2 |
| Electives to make a total of | 15 |

| Second Semester | Semester Hours |
|---|---|
| Foreign Language (the one already begun) | 3 |
| History | 3 |
| Zoology 710: Genetics and Eugenics | 3 |
| Zoology 750: Practice | 4 |
| Zoology 752: Jurisprudence and Seminar | 1 |
| Total semester hours | 14 |
| Total semester hours in curriculum | 130 |

# BACHELOR OF MUSIC CURRICULUM[1]

## (LEADING TO THE DEGREE OF BACHELOR OF MUSIC)

L. V. E. Irvine, Adviser

This curriculum is designed for those who wish to stress the performing aspect of their training in any major—in voice, piano or in some instrument of the Symphony Orchestra or Band. All majors will be required to take a minimum of six hours in piano.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| Physics 505: Descriptive | 3 | |
| Music 410, 411: Theory and Practice | 6 | |
| Applied Music | 10 | |
| Ensemble | 2 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 30 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English, foreign language or speech | 3 | |
| Science elective | 3 | |
| Psychology 501: General Psychology | 3 | |
| Music 620, 621: History and Appreciation | 6 | |
| Music 501, 502: Harmony | 6 | |
| Applied Music | 10 | |
| Ensemble | 2 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 35 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Social Science | 6 | |
| Academic Elective | 3 | |
| Electives | 6 | |
| Music 601, 602: Advanced Harmony | 6 | |
| Applied Music | 8 | |
| Ensemble | 2 | |
| Music 720: Conducting; or 724 and 725 | 2 | |
| English, foreign language or speech | 3 | |
| Total semester hours | | 36 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Academic electives | 6 | |
| Electives | 6 | |
| Theory electives | 6 | |
| Applied Music | 8 | |
| English, foreign language or speech | 3 | |
| Ensemble | 2 | |
| Total semester hours | | 31 |
| Total semester hours in curriculum | | 132 |

Note: Music Recital required of those taking 18 hours in any one or more fields of applied music. A minimum of a "C" average in the area of emphasis is prerequisite to the qualifying audition preceding the recital.

[1]See also under Department of Music.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

* Voice majors must elect a minimum of six hours of a foreign language.

# SACRED MUSIC CURRICULUM

## (LEADING TO THE DEGREE OF BACHELOR OF MUSIC IN SACRED MUSIC)

L. V. E. Irvine, Adviser

### FRESHMAN YEAR

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music (organ and voice, according to major interest) | 5 | 5 | |
| English 401, 402: Composition | 3 | 3 | |
| Music 412, 413: Keyboard | 2 | 2 | |
| Office Administration 501: Typing | | 2 | |
| Music 410, 411: Fundamentals | 3 | 3 | |
| Ensemble | 1 | 1 | |
| Physical Education Activity | 1 | 1 | |
| Orientation | 1 | | |
| Total semester hours | 16 | 17 | 33 |

### SOPHOMORE YEAR

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 4 | 2 | |
| Art 564: Appreciation | | 2 | |
| English 501 or 502: English or American Literature | 3 | | |
| Music 501, 502: Theory, Harmony | 3 | 3 | |
| Music 510: Sight Singing | 3 | | |
| Music 542: Church Music | | 2 | |
| Psychology 501: General | 3 | | |
| Speech 410: Principles | | 3 | |
| Ensemble | 1 | 1 | |
| Physical Education Activity | 1 | 1 | |
| Elective | | 3 | |
| Total semester hours | 18 | 17 | 35 |

### JUNIOR YEAR

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 7 | 5 | |
| Music 601, 602: Advanced Harmony | 3 | 3 | |
| Music 620, 621: History of Music | 3 | 3 | |
| Music 641: Church Music | | 3 | |
| Ensemble | 1 | 1 | |
| Electives (Philosophy 601, Sociology 501, or Psychology 714 recommended) | 3 | 3 | |
| Total semester hours | 17 | 18 | 35 |

### SENIOR YEAR

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 5 | 5 | |
| English 652: Hebrew Literature | | 3 | |
| Music 701: Counterpoint | | 3 | |
| Music 724, 725: Conducting | 1 | 1 | |
| Music 741: Church Music | 3 | | |
| Ensemble | 1 | 1 | |
| Electives | 6 | 3 | |
| Total semester hours | 16 | 16 | 32 |
| Total hours in curriculum | | | 135 |

## MUSIC-MAJOR CURRICULUM[1]

(LEADING TO THE B. A. DEGREE)

L. V. E. Irvine, Adviser

Students who pursue a Music Major leading to the BA Degree will be required to complete the following distribution in music: Music Theory 12 hours; History of Music 6 hours; Applied Music 16 hours; Ensemble 6 hours. For their minor, students will take 21 hours in a subject chosen with the approval of the head of the department and the dean. In addition to their major and minor, they will complete the rest of the work indicated in the curriculum below, to make a total of 130 semester hours.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| Foreign language | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General | 6 | |
| Music | 5 | |
| Orientation | 1 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 32 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| History 501, 502: U. S. History; or Political Science 501, 602 U. S. Government, European Governments | 6 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 | |
| Music | 7 | |
| [2]Physical Education (activity courses) | 2 | |
| Total semester hours | | 35 |

| JUNIOR AND SENIOR YEARS | Semester Hours | |
|---|---|---|
| Major: Music enough to make a total for the major of (Theory, 12; History and Appreciation, 6; Applied Music, 16; Ensemble, 6) | 40 | |
| Minor: enough to make a total of | 21 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 4 | |
| Electives: enough to make the total for the curriculum of 130 | | |
| Total semester hours in curriculum | | 130 |

[1]See also under Department of Music.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## PHYSICS CURRICULUM[1]

(LEADING TO THE B. S. DEGREE IN PHYSICS)

Dr. H. E. Ruff, Adviser

This curriculum is designed to give the student a knowledge of the fundamental phenomena and basic principles of the science. Emphasis is placed upon the elements of scientific thinking and scientific techniques as well as upon scientific knowledge. The course offers preparation for practice in the newer fields of applied science, such as atomic energy, electronics, meteorology, and geophysics. Positions in research laboratories, in the Weather Bureau, in the exploration work of the oil in-

dustry, at the National Bureau of Standards, and with the Atomic Energy Commission are open to men who have taken the B. S. Degree in Physics. Students who complete this curriculum will also be prepared to pursue graduate study in Physics. The nature of the course is such as to require a minor in the field of Mathematics. Approximately one third of the required courses are in the Humanities, thus affording a reasonably liberal background.

FRESHMAN YEAR

| First Semester | Semester Hours |
|---|---|
| Chemistry 401: General Chemistry | 4 |
| English 401: Freshman English | 3 |
| Mathematics 401: College Algebra | 3 |
| Mathematics 402: Trigonometry | 3 |
| Orientation | 1 |
| [2]Physical Education | 1 |
| Total semester hours | 15 |

| Second Semester | Semester Hours |
|---|---|
| Chemistry 402: General Chemistry | 4 |
| Education 401: Reading | 2 |
| English 402: Freshman English | 3 |
| Mathematics 540: Analytic Geometry and Calculus I | 6 |
| [2]Physical Education | 1 |
| Total semester hours | 16 |

SOPHOMORE YEAR

| First Semester | Semester Hours |
|---|---|
| Physics 501: General Physics | 4 |
| English 502: American Literature | 3 |
| French 401: Elementary French or German 401, Beginning German | 3 |
| Mathematics 541: Analytic Geometry and Calculus II | 6 |
| [2]Physical Education | 1 |
| Total semester hours | 17 |

| Second Semester | Semester Hours |
|---|---|
| Physics 502: General Physics | 4 |
| English 603: Technical English | 3 |
| French 402: Elementary French or German 402, Beginning German | 3 |
| History 502: History of U. S. since 1865 | 3 |
| Mathematics 706: Differential Equations | 3 |
| [2]Physical Education | 1 |
| Total semester hours | 17 |

JUNIOR YEAR

| First Semester | Semester Hours |
|---|---|
| Physics 604: Physical Optics | 4 |
| Physics 630: Modern Physics | 4 |
| French 501: Intermediate French or German 501: Intermediate German | 3 |
| Liberal Arts Electives | 3 |
| [3]Science Electives | 4 |
| Total semester hours | 18 |

| Second Semester | Semester Hours |
|---|---|
| Physics 618: Solid State Physics | 4 |
| Physics 631: Modern Physics | 4 |

| | | |
|---|---|---|
| French 503: Scientific French or German 502: Intermediate German | 3 | |
| Liberal Arts Electives | 3 | |
| [3]Science Electives | 4 | |
| Total semester hours | | 18 |

SENIOR YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Physics 701: Experimental Physics | 1 | |
| Physics 720: Physical Mechanics | 4 | |
| Physics 730: Atomic Physics | 3 | |
| Liberal Arts Electives | 3 | |
| [3]Science Electives | 7 | |
| Total semester hours | | 18 |

| Second Semester | Semester Hours | |
|---|---|---|
| Physics 702: Experimental Physics | 1 | |
| Physics 703: Electricity and Magnetism | 4 | |
| Physics 731: Nuclear Physics | 3 | |
| Liberal Arts Electives | 3 | |
| [3]Science Electives | 7 | |
| Total semester hours | | 18 |
| Total semester hours in four-year curriculum | | 137 |

[1]See also under Department of Physics.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

[3]Science electives may be chosen from physics, mathematics, chemistry, and certain courses in engineering.

## POLITICAL SCIENCE CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. G. W. McGinty, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| Foreign language | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Geography | 3 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| History 501, 502: U. S. History | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 | |
| Political Science 501, 602: U. S. Government, European Governments | 6 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Economics 501, 502: Introduction to Economics | 6 | |
| Political Science | 12 | |
| Sociology 501, 502: Principles, Social Problems | 6 | |
| Minor Subject | 6 | |
| Total semester hours | | 30 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Political Science | 12 | |
| Minor Subject | 6 | |
| Speech 410: Principles of Speech | 3 | |
| Library Science 603: Library and the Curriculum | 3 | |
| Electives | 8 | |
| Total semester hours | | 32 |
| Total semester hours in curriculum | | 130 |

[1]See also under Department of Social Sciences.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## PRE-LAW CURRICULUM

Dean J. B. Wilson, Adviser

Students intending to study law would do well to complete a degree before entering law school. Those who cannot do so should follow the curriculum given below.

Students who satisfactorily complete the first year of work in an accredited law school, and who have previously finished this three-year curriculum may receive the B. A. degree at Louisiana Polytechnic Institute provided the usual academic standards have been maintained.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| Foreign language (French preferred) | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 401, 402: Algebra, Trigonometry, or 405, 406: General | 6 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 | |
| Orientation | 1 | |
| Physical Education (activity courses) | 2 | |
| Total semester hours | | 31 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. and European Governments | 6 | |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 | |
| Physical Education (activity courses) | 2 | |
| Speech 410: Principles of Speech | 3 | |
| Geography | 3 | |
| Total semester hours | | 34 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| English 723: English Words and Idioms, English 609: Parliamentary Usage, and enough hours in Business and Economics, English, and Social Science, chosen with the approval of the dean, to make a total of | | 34 |
| Total semester hours in curriculum | | 99 |

## THREE-YEAR
## PRE-MEDICAL OR PRE-DENTAL CURRICULUM

Dr. Charles H. Smith, Adviser

This curriculum outlined herein is suggested for those students who plan to spend only three years in this Institution before transferring to medical or dental school.

Students who satisfactorily complete the first year of work in an accredited dental or medical school, and who have previously finished this three-year curriculum may receive the B. S. degree at Louisiana Polytechnic Institute provided the usual academic standards have been maintained.

Since the requirements of medical and dental schools vary considerably as to specific entrance subjects, it is essential that the student decide early as to the school to which he wishes to apply for entrance and inform the adviser of pre-medical and pre-dental students. The adviser will give him full information concerning the additional entrance requirements in that area specified by the various medical and dental schools.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Chemistry 401, 402: General | 9 |
| English 401, 402: Composition | 6 |
| Mathematics 401, 402: Algebra, Trigonometry | 6 |
| Zoology 401, 402: General | 8 |
| Orientation | 1 |
| Physical Education (activity courses) | 2 |
| Total semester hours | 32 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| [1]Foreign Language (French, Spanish, or German) | 6 |
| English 501, 502: English and American Literature | 6 |
| Economics or Social Science | 6 |
| Chemistry 505: Analytical | 4 |
| Zoology 502, 711: Vertebrate, Embryology | 8 |
| Speech 410: Principles | 3 |
| Physical Education (activity courses) | 2 |
| Total semester hours | 35 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Foreign Language (the one already begun) | 6 |
| Chemistry 601, 602, 603, 604: Organic | 10 |
| Chemistry 630: Physical, or 751: Biochemistry | 4 |
| Psychology 501: General Psychology | 3 |
| Zoology 710: Genetics, or Psychology 714: Adjustment | 3 |
| Physics 509, 510: Elementary Physics | 8 |
| Total semester hours | 34 |
| Total semester hours in curriculum | 101 |

[1]Students who present two units of high school French will register for French 501, 503: Intermediate and Scientific French.

## PRE-NURSING CURRICULUM

Dr. Roland Abegg, Adviser

For students who intend to enter nursing school and become registered nurses.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Zoology 400, Botany 401: General | 8 |
| English 401, 402: Composition | 6 |
| French or Spanish or German 401, 402: Beginning | 6 |
| History | 6 |
| Mathematics 405, 406: General | 6 |
| Orientation | 1 |
| Physical Education (activity courses) | 2 |
| Total semester hours | 35 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Chemistry 401-402 or 407, 408: General, and 520: Organic | 10-12 | |
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| Psychology 501, 714: General; Adjustment | 6 | |
| Sociology 608: The Family | 3 | |
| Physical Education (activity courses) | 2 | |
| Electives | 3 | |
| Total semester hours | | 36 or 38 |
| Total semester hours in curriculum | | 71 or 73 |

## TWO-YEAR PRE-PHARMACY CURRICULUM

Dr. Charles H. Smith, Adviser

Completion of this two-year curriculum will prepare students to enter most pharmacy schools, but as soon as the student has decided which pharmacy school he will enter, the dean will adjust the curriculum, if necessary, to meet the individual requirements of that school.

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Accounting 510: General Accounting | 3 | |
| Botany 401: General | 4 | |
| Chemistry 401, 402: General | 9 | |
| English 401, 402: Composition | 6 | |
| Mathematics 401, 402: Algebra, Trigonometry | 6 | |
| Zoology 400: Introductory | 4 | |
| Physical Education (activity courses) | 2 | |
| Orientation 401 | 1 | |
| Total semester hours | | 35 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| Chemistry 505: Analytical | 4 | |
| Economics 515: Fundamentals | 3 | |
| English 501, 502: English and American Literature | 6 | |
| Physics 509-510: Elementary | 8 | |
| Zoology 502: Vertebrate | 4 | |
| Social Science (Geography, History, Political Science, or Sociology) | 6 | |
| Physical Education (activity courses) | 2 | |
| Total semester hours | | 33 |

| SUMMER | Semester Hours | |
|---|---|---|
| Chemistry 601, 602, 603, 604: Organic | 8 | |
| or | | |
| Speech 410: Principles, plus six hours of electives, to make a total of | 9 | |
| Total semester hours | | 8-9 |
| Total semester hours in curriculum | | 76-77 |

## PRE-PROFESSIONAL CURRICULUM IN SOCIAL WELFARE [1]

### (LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. G. W. McGinty, Adviser

This curriculum is designed primarily for those students who plan to do social work, or to do graduate professional study in the field of social work.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Zoology 400: General Zoology | 4 |

| | | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| French 401, 402: Beginning or German 401-402, Beginning | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General | 6 | |
| Orientation | 1 | |
| *Physical Education (activity courses) | 2 | |
| Speech 410: Principles | 3 | |
| Total semester hours | | 34 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| French, 501, 502: Intermediate or German 501-502, Intermediate | 6 | |
| History 501, 502: United States | 6 | |
| *Physical Education (activity courses) | 2 | |
| Political Science 501, 604: Federal and Louisiana Gov't. | 6 | |
| Sociology 501, 502: Principles of Sociology | 6 | |
| Total semester hours | | 32 |

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Economics 515: Fundamentals of Economics | 3 | |
| History 607, 760: Economic History of U. S., History of La. | 6 | |
| Political Science 612: Public Administration | 3 | |
| Psychology 501, 714: General; Adjustment | 6 | |
| Sociology 608, 614: The Family, Criminology | 6 | |
| Sociology 600: Introduction to Social Welfare Work | 3 | |
| Geography 610: Geog. of La. | 3 | |
| Geography 525: World | 3 | |
| Total semester hours | | 33 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Sociology 604: Social Psychology; 3 hours advanced | 6 | |
| Sociology 630: Rural, or Sociology 640: Urban; and Sociology 612: Racial | 6 | |
| Zoology 520: Hygiene | 3 | |
| Electives | 16 | |
| Total semester hours | | 31 |
| Total semester hours in curriculum | | 130 |

[1] See also under the department of Social Sciences.

[2] Only 4 semester hours of Physical Education activity courses may count toward graduation.

## PRE-THEOLOGY REQUIREMENTS

Dean J. B. Wilson, Adviser

The following courses are required by most seminaries for admission. Pre-Theology students usually complete the bachelor's degree before entering seminary.

English: Minimum, 12 hours (16 hours recommended)

Philosophy: Minimum, 6 hours (12 hours recommended)

At least two of the following courses:

- Introduction to Philosophy
- History of Philosophy
- Ethics
- Logic

Bible or Religion: Minimum, 3-4 hours (6 hours recommended)

History: Minimum, 6 hours (12 hours recommended)

Psychology: Minimum, 3 hours

Foreign Language: French or German, 12-16 hours

Natural Sciences: Minimum, 4 hours (6 hours recommended), either physical or biological
Social Sciences: Minimum, 6 hours. At least two of the following:
Economics
Sociology
Government
Social Psychology
Education
Recommended Majors: History or government, English or Languages, Psychology, Sociology.

## SOCIOLOGY CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. G. W. McGinty, Adviser

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| Orientation | 1 | |
| English 401, 402: Composition | 6 | |
| Foreign language | 6 | |
| History 401, 402: Western World | 6 | |
| Mathematics 405, 406: General | 6 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, or Zoology) | 8 | |
| Total semester hours | | 35 |
| **SOPHOMORE YEAR** | **Semester Hours** | |
| English 501, 502: English and American Literature | 6 | |
| Foreign language (the one already begun) | 6 | |
| History 501, 502: United States | 6 | |
| Geography 503: Introductory | 3 | |
| [2]Physical Education (activity courses) | 2 | |
| Science (Botany, Chemistry, Geology, Physics or Zoology) | 4 | |
| Sociology 501, 502: Principles, Social Problems | 6 | |
| Total semester hours | | 33 |
| **JUNIOR YEAR** | **Semester Hours** | |
| Economics 501, 502: Principles of Economics | 6 | |
| Political Science 501, 604: Federal and Louisiana Gov't. | 6 | |
| Sociology | 12 | |
| Minor Subject | 6 | |
| Total semester hours | | 30 |
| **SENIOR YEAR** | **Semester Hours** | |
| Sociology | 12 | |
| Minor Subject | 6 | |
| Electives | 14 | |
| Total semester hours | | 32 |
| Total semester hours in the curriculum | | 130 |

[1]See also under the Department of Social Sciences.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## SPANISH CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. F. O. Adam, Adviser

Students who enter Tech with high school credits in Spanish will register as follows:

Those with one year of high school Spanish will register in Spanish

401; those with two years of high school Spanish may register in Spanish 501; those with three or four years of high school Spanish may register in Spanish 502. Any student with two or more years of high school work may elect to begin his studies in Spanish with 401 and will receive credit toward graduation for any course successfully completed at Louisiana Tech.

Students whose native language is Spanish may not receive credit for Spanish 401, 402, 501, 502, 601, 602, 650, 651.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| Spanish 401, 402: Beginning Spanish. If Spanish was taken in high school, see note above | 6 |
| Mathematics 401, 402: Algebra, Trigonometry, or 405, 406: General Mathematics | 6 |
| Science (Botany, Chemistry, Geology, or Zoology) | 4 |
| Orientation | 1 |
| [2]Physical Education (activity courses) | 2 |
| History 401, 402: Western World | 6 |
| Total semester hours | 31 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| History 501, 502: U. S. History, or Political Science 501, 602: U. S. Government, European Governments | 6 |
| Science (Botany, Chemistry, Geology, Physics, or Zoology) | 8 |
| Spanish 501, 502: Intermediate Spanish | 6 |
| [2]Physical Education (activity courses) | 2 |
| Electives | 6 |
| Total semester hours | 34 |

| JUNIOR AND SENIOR YEARS[3] | Semester Hours |
|---|---|
| [4]Major: Spanish 601, 602, plus 12 semester hours of courses numbered from 603 to 751 | 18 |
| Minor, enough hours in a related subject, chosen with the approval of the head of the department, to make a total for the four years of | 21 |
| Art 564: Art Appreciation | 2 |
| Music 630: Music Appreciation | 2 |
| English 718: Shakespeare | 3 |
| Electives: enough to make the total for the curriculum | 130 |
| Total semester hours in the curriculum | 130 |

[1]See also under Department of English and Foreign Languages.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

[3]Before the beginning of the junior year majors in Spanish must consult the head of the department for approval of their minor subject and electives.

[4]A major in Spanish ordinarily consists of 30 semester hours; but in cases in which a student offers high school credit in Spanish and registers in an advanced course his first year, his total hours for a major will be reduced by the amount of elementary work he is ineligible to take in college. A major in Spanish requires 18 hours of work numbered 600 or above.

# SPANISH CURRICULUM[1]
# WITH A COMMERCE MINOR
## (LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. F. O. Adam, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| For minors in Accounting or Office Administration | |
| English 401. 402: Composition | 6 |
| Orientation | 1 |
| [2]Physical Education (activity courses) | 2 |
| Spanish 401, 402 (If Spanish was taken in high school, see head note under preceding Spanish Curriculum) | 6 |
| Mathematics 405-406: General Mathematics | 6 |
| For minors in Accounting: | |
| Science (Zoology or Botany or Chemistry or Geology) ( 8) ( 8) | |
| For minors in Office Administration: | |
| Office Administration 501, 502: Typewriting ( 4) | |
| History 401, 402: Western World ( 6) (10)8 or 10 | |
| Total semester hours | 29 or 31 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| For minors in Accounting or Office Administration: | |
| English 501, 502: English and American Literature | 6 |
| [2]Physical Education (activity courses) | 2 |
| Spanish 501, 502: Intermediate | 6 |
| For minors in Accounting: | |
| Accounting 501, 502: Elementary ( 6) | |
| History 401, 402: Western World ( 6) | |
| Art 564: Art Appreciation ( 2) | |
| Music 630: Music Appreciation ( 2) (16) | |
| For minors in Office Administration: | |
| Office Administration 503, 506, 507: Typewriting, Shorthand ( 8) | |
| Science (Zoology or Botany or Chemistry or Geology) ( 8) | |
| History 501, 502 or Political Science 501, 602 ( 6) (22) | |
| Total semester hours | 30 or 36 |

| JUNIOR AND SENIOR YEARS | Semester Hours |
|---|---|
| For minors in Accounting or Office Administration: | |
| Science (Zoology, Chemistry, Geology or Physics) | 4 |
| Spanish 616, 601, 602, plus 9 semester hours of courses numbered 603-751 | 18 |
| English 718: Shakespeare | 3 |
| Electives (for minors in Office Administration, Accounting 501, 502 strongly recommended; for minors in Accounting, Office Administration 501, 502, 503 strongly recommended.) | 22 |
| For minors in Accounting: | |
| Accounting 611, 612, 711, 712, 650 or 654, 703 (18) | |
| History 501, 502 or Pol. Sci. 501, 602 ( 6) (24) | |
| For minors in Office Administration: | |
| Office Administration 603, 604, 607, 609 (12) | |

Art 564: Art Appreciation ( 2)
Music 630: Music Appreciation ( 2) (16)
Total semester hours in curriculum 130

[1]Students wishing to minor in Business Administration or in Economics on this curriculum may do so with the joint approval for courses in the minor subject of the Head of the Department of English and Foreign Languages, the Dean of the School of Business Administration, and the Professor of Spanish.

[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

## SPEECH CURRICULUM

(LEADING TO THE DEGREE OF BACHELOR OF ARTS)

Dr. Paul J. Pennington, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| English 401, 402: Composition | 6 |
| Foreign language | 6 |
| History 401, 402: Western World | 6 |
| Orientation | 1 |
| [2]Physical Education (activity courses) | 2 |
| Science (Botany, Chemistry, Geology or Zoology) | 6 |
| Speech 410, 511: Principles, Advanced Speech Techniques | 6 |
| Total semester hours | 33 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502: English and American Literature | 6 |
| Foreign language (the one already begun) | 6 |
| Mathematics 405, 406: General | 6 |
| [2]Physical Education (activity courses) | 2 |
| Science (Botany, Chemistry, Geology, Physics or Zoology) | 6 |
| Speech 622: Phonetics | 3 |
| Electives in minor subject | 3 |
| Total semester hours | 32 |

| JUNIOR AND SENIOR YEARS[3] | Semester Hours |
|---|---|
| Major: Speech 723 and four of the following speech courses: 615 (Oral Interpretation of Literature); either 640 (Radio Techniques) or 661 (Television Techniques); 706 (Play Production); 610 (Speech Correction); and either 753 (Public Address) or 500 (Discussion and Debate) plus 9 additional hours of Speech | 21 |
| Minor: enough hours in a subject other than Speech to make a total for the minor of | 21 |
| History 501, 502: U. S. History or Political Science 501, 602: U. S. Government, European Governments | 6 |
| Electives: enough to make the total semester hours for the curriculum at least | 130 |

[2]Only 4 semester hours of activity courses may count toward a degree.

[3]Majors on this curriculum are required to have the approval of their minor and electives by the department head by the beginning of their junior year.

## ZOOLOGY CURRICULUM[1]

(LEADING TO THE DEGREE OF BACHELOR OF SCIENCE)

Dr. Roland Abegg, Adviser

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Orientation | 1 |

| | | |
|---|---|---|
| English 401, 402: Composition | 6 | |
| Zoology 401, 402: General | 8 | |
| Chemistry 401-402 or 407-408: General | 8 or 6 | |
| [2]Physical Education (activity courses) | 2 | |
| History 501: U. S. History | 3 | |
| Mathematics 401, 402: Algebra, Trigonometry | 6 | |
| Total semester hours | | 34 or 32 |

| SOPHOMORE YEAR | Semester Hours | |
|---|---|---|
| English 501, 502: English and American Literature | 6 | |
| Political Science 501: U. S. Government | 3 | |
| Psychology 501: General Psychology | 3 | |
| Foreign Language | 6 | |
| Chemistry | 4 | |
| [2]Physical Education (activity courses) | 2 | |
| Botany 401: General Botany | 4 | |
| History and one other Social Science | 6 | |
| Total semester hours | | 34 |

| JUNIOR AND SENIOR YEARS | Semester Hours | |
|---|---|---|
| Zoology sufficient to make a total for the four years of | 30 | |
| Minor subject: enough to make a total for the four years of | 21 | |
| Physics 509-510: Elementary, or 505, 506: Descriptive | 8 or 6 | |
| Foreign Language | 6 | |
| Economics 501, 502: Principles and Problems | 6 | |
| Electives: enough to bring total for curriculum to | 130 | |
| Total semester hours in curriculum | | 130 |

[1]See also under Zoology Department.
[2]Only 4 semester hours of Physical Education activity courses may count toward graduation.

# Graduate Curricula

## Department of Chemistry

### REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE WITH A MAJOR IN CHEMISTRY

For admission to graduate study for the degree of Master of Science with a major in Chemistry the applicant must have a bachelor's degree from an accredited college, including the following courses: one year each of General Chemistry, Quantitative Analysis, Organic Chemistry, Physical Chemistry, and physics; mathematics through Calculus (both Differential and Integral): and Organic Qualitative Analysis.

The candidate for the master's degree must complete a total of 30 semester hours of graduate credit in chemistry, or 24 hours of chemistry and six hours in a related field, consisting of courses numbered 700 (for graduates and advanced undergraduates) and 800 (for graduate students only). Typical 700 courses are Organic Synthesis, Organic Spectroscopy, Chemical Thermodynamics, Colloid Chemistry, Advanced Biochemistry, and Optical and Electrical Methods of Analysis.

Nine of the required 30 hours must be earned by taking for credit courses numbered 800 (for graduates only), such as Physical Organic Chemistry, Polymer Chemistry, Molecular Spectroscopy, Quantum Chemistry, Chemistry of Microorganisms, and Advanced Techniques in Chemical Analysis.

In addition to the nine-hour requirement stated in the preceding paragraph, six hours of the total must be earned by taking for credit Chemistry 851-852, Thesis Course, and by completing an acceptable thesis.

The candidate must posses a reading knowledge of one modern foreign language—French, German, or Russian.

## Department of Geology

### REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE WITH A MAJOR IN GEOLOGY

For admission to graduate study for the degree of Master of Science with a major in Geology the applicant must have a bachelor's degree from an accredited college, with a minimum of 36 semester hours in geology, including the following: one semester each of Physical Geology (including laboratory), Historical Geology (including laboratory), Mineralogy, Petrology, Paleontology, Structural Geology, and Field Methods; one summer Geology Field Course. In addition, the candidate must submit credit for one semester of Zoology, one year of General Chemistry, one year of General Physics, and Mathematics through Plane Analytic Geometry (through Calculus recommended). The record of each prospective graduate student will be reviewed by the adviser to geology students for the School of Arts and Sciences and the dean of the School of Arts and Sciences, who will determine if there are deficiencies to be removed.

The candidate for the master's degree must complete a total of 18 hours of graduate credit in geology and 12 hours of related fields and/or geology, consisting of courses numbered 700 (for graduates and advanced undergraduates) and 800 (for graduate students only). Typical 700 courses are Petroleum Geological Structures, Advanced Stratigraphy, Economic Geology, Experimental Physics, Optics, Differential Equations,

Advanced Quantitative Analysis, Chemical Thermodynamics, Optical and Electrical Methods of Analysis.

Nine hours of the 18 hours must be earned by taking for credit courses numbered 800 (for graduates only), such as Engineering Geology, Optical Mineralogy, and Advanced Structural Geology.

In addition to the nine-hour requirements stated in the preceding paragraph, six hours of the total must be earned by taking for credit Geology 851-52, Research and Thesis, and by completing an acceptable thesis.

The candidate must possess a reading knowledge of one foreign language—French, German or Spanish.

## Department of Mathematics

### REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE WITH A MAJOR IN MATHEMATICS

For admission to graduate study for the degree of Master of Science with a major in Mathematics the applicant must have a bachelor's degree with an undergraduate major in Mathematics of not less than 30 hours.

The candidate for the master's degree must complete a minimum of 30 semester hours of graduate credit in mathematics, or 24 hours of mathematics and 6 hours in a related field, consisting of courses numbered 700 (for graduates and advanced undergraduates) and courses numbered 800 (for graduate students only).

Nine of the required 30 hours must be in courses offered exclusively for graduate students (800 series).

In addition to the nine hours required above, a thesis is required. Three hours are allowed for an acceptable thesis and in special cases where the thesis is deemed worthy six hours of credit may be granted. In the latter case it is supposed that the student's thesis represents original research accomplished over at least two semesters.

## Department of Physics

### REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE WITH A MAJOR IN PHYSICS

For admission to graduate study for the degree of Master of Science with a major in Physics the applicant must have a bachelor's degree with an undergraduate major in Physics of not less than 40 hours. In addition, he must have college credit for not less than 21 semester hours of mathematics, including Differential and Integral Calculus and Differential Equations, and must have completed at least 22 elective hours of credit in related sciences. (Students whose undergraduate training has included less than 32 semester hours of advanced undergraduate physics and less than 21 semester hours of advanced undergraduate mathematics beyond the elementary calculus should expect to spend additional time as a candidate for the M.S. degree).

The minimum residence requirement for the M.S. degree in Physics is two semesters and one summer session.

The candidate for the master's degree must complete a minimum of 30 semester hours of graduate credit in Physics, including six hours of Mathematics of Physics.* Six hours may be offered in courses numbered 700 (for graduates and advanced undergraduates), as Experimental Physics, Atomic Physics, and Nuclear Physics, though the student may not repeat, for graduate credit, courses which he has already had as an undergraduate.

Eighteen of the 30 minimum required hours must be earned by taking for credit courses numbered 800 (for graduates only), including six hours of Mathematics of Physics* and 12 hours in such additional courses as Electromagnetic Theory, X-Rays, Theoretical Mechanics, Quantum Mechanics, and Theories of Physics.

In addition to the 18-hour requirement stated in the preceding paragraph, six of the required 30 hours must be earned by taking for credit Physics 851-852, Thesis Course, and by completing an acceptable master's thesis.

Before being admitted to candidacy for the M.S. degree the student must pass a reading-knowledge examination in scientific German or scientific French. During the last semester of residence the candidate must pass a comprehensive oral examination in the field of physics and on the thesis.

*The Mathematics of Physics courses are listed as follows among the graduate courses of the Department of Mathematics: Mathematics 802, Selected Topics in Mathematics, and Mathematics 844, Modern Operational Mathematics.

## PHYSICS CURRICULUM

(LEADING TO THE M.S. DEGREE)

Dr. H. E. Ruff, Adviser

Admission to graduate study in physics will be granted to a limited number of students who have earned the B.S. in Physics from Louisiana Polytechnic Institute, or another institution of similar standing, and whose undergraduate work in physics and mathematics is such as to indicate the ability for advanced and original work. The experimental research problem of the student in a special field of physics will constitute a very important part of this course.

| SUMMER SESSION | Semester Hours | |
|---|---|---|
| Physics 811: Electromagnetic Theory | 3 | |
| Physics 812: X-Rays | 4 | |
| Total Semester Hours | | 7 |
| **First Semester** | **Semester Hours** | |
| Physics 821: Theoretical Mechanics | 3 | |
| Physics 831: Theories of Physics | 3 | |
| Physics 851: Thesis Research | 3 | |
| Mathematics 802: Selected Topics in Mathematics | 3 | |
| Total Semester Hours | | 12 |
| **Second Semester** | **Semester Hours** | |
| Physics 822: Quantum Mechanics | 3 | |
| Physics 832: Theories of Physics | 3 | |
| Physics 852: Thesis Research | 3 | |
| Mathematics 844: Modern Operational Mathematics | 3 | |
| Total Semester Hours | | 12 |
| Total Semester Hours in M.S. Curriculum | | 31 |

## Department of Zoology

### REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE WITH A MAJOR IN ZOOLOGY

For admission to graduate study for the degree of Master of Science with a major in Zoology the applicant must have a bachelor's degree with an undergraduate major in Zoology of not less than 30 semester

hours, or an undergraduate major in Biological Science with a minimum of 21 semester hours in Zoology. In addition, he should have earned credit in at least 10 semester hours of undergraduate Chemistry.

The candidate for the master's degree must complete a minimum of 30 semester hours of graduate credit in Zoology, or 24 hours of Zoology and six hours in a related field, to be chosen by the student's adviser.

Fifteen hours of the total of 30 may be selected from courses numbered 700.

Nine hours of the total must be earned by taking for credit courses numbered 800. Zoology 805 or 806 will be required each semester while the student is in residence. A maximum credit of two hours will be allowed toward the degree.

In addition to the nine-hour requirement stated in the preceding paragraph, six hours of the total must be earned by taking for credit Zoology 851-852, Thesis Course, and by completing a master's thesis.

# Department of Art

F. ELIZABETH BETHEA, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSOR MARY MOFFETT; ASSOCIATE PROFESSOR MARK R. HARRIS;
ASSISTANT PROFESSORS CORA HOFFPAUIR, RICHARD MORTON

Five curricula in Art are offered in the School of Arts and Sciences and one in the School of Education. These curricula are designed to give the student a broad understanding of himself in relation to his environment, the community and its cultural and business needs and possibilities, while at the same time providing a definite program of study in design, drawing, color, media, tools and techniques directed toward professional application.

## REQUIREMENTS FOR A MINOR IN ART
(For students in other departments)

Students from other departments who desire a minor in Art are required to take twelve semester hours of advanced courses in Art, including Art 540, 610, 666 and 667, and in addition to Art 401, 411, 470, 450, 451, 510, 550, and 564A.

Any student in the college may elect any course or courses for which he is eligible. The election of such courses must be with the approval of the head of the department in which he is registered, the head of the Department of Art, and the dean of the school in which the student is registered.

Art 402 and Art 501 are open to students in the School of Education only.

Art 475 is open to students in the School of Home Economics only.

Credit for Art 564 will not be given to students who expect to receive credit for Art 401 and 402 or Art 401 and Art 475.

## DESCRIPTION OF ART COURSES

**401: Art Structure.** 4-0-2*. An elementary course designed as a foundation for all art study. Theory and practice in the elements of art as a basis for appreciation of the fine arts and crafts of the past and present. Lectures illustrated with slides, prints, and objects; laboratory.

**402: Art Structure for Students in Education.** 4-0-2. Pre'q., Art 401. A continuation of the study of the theory and practice in the elements and principles of art structure. Problems in drawing, painting, design, lettering, poster composition. Brief introduction to recent developments in teaching art activity in elementary grades. Lectures, discussions, reports, laboratory.

**411: Elementary Design.** 4-0-2. Pre'q., Art 401. A continuation of the theory and practice in the elements and principles of art structure. Formal problems in design and color. Pictorial composition, lettering and posters. Lectures, discussions, reports, laboratory.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

**450: Elementary Drawing.** 4-0-2. A study of the principles underlying all creative and representative drawing; sketching from still-life, landscape, and figure; use of one, two, and three point perspective. Freedom and ease in drawing combined with an observance of the principles of art structure. Independent studies of action figures, hands, feet, and head submitted weekly.

**451: Elementary Drawing.** 4-0-2. Pre'q., Art 450. A continuation of Art 450 with more advanced problems in drawing from still-life and figure. Field trips for sketching out-of-doors during the second half of semester. Independent studies of plant, tree and landscape forms submitted weekly.

**470: Elementary Water Color Painting.** 6-0-3. Pre'q., Art 401 and Art 450. Techniques of water color painting accompanying drawing and design in concurrent courses. Submission of two independent sketches weekly for conference. Class periods devoted to the problems involved in painting the approved compositions.

**475: Art Structure for Students in Home Economics.** 4-0-2. Pre'q., Art 401. A continuation of the study of the theory and practice in the elements and principles of art structure. Problems supplementary to the work in Home Economics: art structure and costume design, problems of home and community life. Experiments with various media. Lectures, discussions, field trips, laboratory.

**501: Art 402 Continued.** 4-0-2. Pre'q., Art 402. A continuation of Art 402 with emphasis on craft materials and their use in the elementary grades. Ways in which art activities contribute to the social studies; practice in planning units of study: art activities in reading, literature, science, etc. Lectures, reports, laboratory, observations.

**510: Design.** 6-0-3. Pre'q., Art 402, Art 411, or Art 475. Problems in flat design involving the application of abstract, geometric, and conventionalized motifs used singly and in repetition. Emphasis on fine line, dark and light, and color. Experimentation with a variety of media, and techniques. Lectures, reports, laboratory.

**511: Lettering and Layout.** 6-0-3. Pre'q., Art 401 and either 402, 411, or 475. A course designed to provide a knowledge of styles of letters and their uses, as well as problems and practice with lettering tools and techniques of advertising, show card and poster design.

**540 and 541: Craft Survey.** 6-0-3 each. Pre'q., Art 402 or 411 or 475. Survey of the elementary process of weaving, metal crafts, ceramics and wood-carving as a basis for advanced study in one or more of these media.

**550: Advanced Drawing.** 6-0-3. Pre'q., Art 451. More advanced problems in drawing. Similar in aim and content to Art 451, with the addition of problems in mechanical drawing involving the use of drawing tools. Experimentation with a variety of media and drawing techniques.

**564: Art Appreciation.** 0-2-2. (See note above). An introduction to the study and enjoyment of art in its various expressions. Fundamental principles for critical judgement. Art in dress, in the home, furniture, textiles, pottery, painting, the graphic arts and civic art. One independent project demonstrating the relationship of art to the student's major field. Two meetings weekly.

**564 A: For Freshman Art Majors.** 0-2-1. Identical lectures and readings but no independent project required. Two meetings weekly.

**566: Modern Painting.** 0-3-3. An introduction to the appreciation of the modern schools of painting with especial emphasis on those of Europe and the United States. Notes prepared in the library.

**570: Oil Painting.** 9-0-3. Pre'q., Art 411, 451, and 470. A course similar in aim and method to Art 470.

**610: Advanced Design.** 6-0-3. Pre'q., Art 510, 511, 550. First semester. The application of the principles of art structure to the crafts, book decoration, graphic illustration, and advertising. The study of printing processes and methods of reproduction.

**611: Advanced Design.** 6-0-3. Pre'q., Art 610. A continuation of Art 610.

**640: Metal Work.** 6-0-3. Pre'q., Art 541 or 545. The execution of jewelry in silver and gold and of bowls, bookends, flat ware and the like, in copper, brass, pewter, and silver, using original designs.

**644: Weaving.** 6-0-3. Pre'q., Art 541. Advanced problems in weaving on the following looms: two and four harness (table and foot types), Indian, Hungarian, etc. Emphasis is placed on a thorough understanding of the fundamentals of weaving to insure abilty for independent work in this medium. Class restricted to ten students.

**645: Display.** 6-0-3. Pre'q., Art 510, 540. The design and construction of three-dimensional forms using a variety of materials, with direction and adaptation to window and store display, exhibits, booths, etc. Offered alternate years.

**646: Ceramics.** 6-0-3. Pre'q., Art 541 or Art 545. An advanced course in pottery-making, including coiling, pressing, modeling and glazing techniques with special emphasis upon various decorative processes to ceramic art.

**650 and 651: Life Drawing.** 4-0-2 each. Pre'q., Art 550. In the first semester, practice in drawing from the head and figure using costumed models. Modeling of the head and figure in clay. In the second semester, advanced practice in drawing and painting the head and figure singly and in groups, with emphasis upon the principles of arrangement.

**654: Drawing for Interior Design.** 6-0-3 each. Pre'q., Art 411, 510, Engineering 451. Problems in the use of drawing instruments, orthographic and isometric projection; mechanical representation of perspective drawn from plans and elevations of furniture and interiors; free-hand renderings in color of furniture and interiors.

**655: Introduction to Housing.** 6-0-3. Pre'q., Art 654. Elementary problems in the design of domestic architecture. Plans and elevations, mechanical and free-hand perspective views, rendered in black and white and color.

**656: Housing.** 6-0-3. Pre'q., Art 510, 564 A and 655. Advanced problems in the development of plans and elevations of exteriors and interiors of houses. Mechanical and free-hand renderings. Lectures, laboratory, field-trips, illustrated reports.

**657: Housing.** 6-0-3. Pre'q., Art 656. A continuation of Art 656. Study of styles, historical and modern, in furniture, fabrics, and accessories. Lectures, laboratory, field-trips, illustrated reports.

**660: Teaching of Fine Arts.** 0-3-3. Pre'q., junior standing in major subject. The planning of a course of art and the methods of presentation of such a course in the elementary and high schools. Practice in many of the techniques to be used. Offered alternate years. (Same as Education 660)

**666: History of Art.** 0-3-3. A brief survey of the painting, sculpture, architecture and minor arts of ancient, medieval and modern periods. Offered alternate years.

**667: History of Art.** 0-3-3. Continuation of Art 666. Offered alternate years.

**670: Oil Painting.** 9-0-3. Pre'q., Art 570. More advanced problems in painting with specific relation to the various points of view and the technical means of accomplishing them.

**675: Portrait Painting.** 4-0-2. Pre'q., Art 651, and 670. Advanced practice in painting the head and figure using water color and oil.

**740: Studio Problems.** 4-0-2. Pre'q., Art 640, 644, or 646. An elective in advanced crafts. (This may be elected after a conference and with the approval of Art Staff.)

**741: Studio Problems.** 4-0-2. Pre'q., Art 651 or 670 or 611. An elective course in advanced drawing, painting or design. (This may be elected after a conference and with the approval of the Art Staff).

**750, 751: Advanced Life Drawing.** 4-0-2 each. Pre'q., Art 651. Advanced practice in figure and portrait composition. Continued emphasis upon principles of arrangements; experimentation with a variety of media and techniques in rendering for processes of graphic reproduction.

**Educ. 750: Improving Instruction in Art.** 0-3-3. (For advanced undergraduates and graduates). See School of Education Bulletin.

# Department of Chemistry

CHARLES H. SMITH, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSOR T. W. RAY JOHNSON, J. W. MORTON; ASSOCIATE PROFESSORS JAMES W. DeMOSS, JR., SELMA S. PATTON, JACK B. MARTIN, CHARLES N. ROBINSON, WILLIAM G. TRAWICK; ASSISTANT PROFESSORS JOHN SUTTER, J. C. TRISLER; ACTING INSTRUCTOR CLIFTON B. LOVE.

## REQUIREMENTS FOR A MAJOR IN CHEMISTRY

(For students taking the B.S. degree in Liberal Arts rather than the B.S. in Chemistry)

Chemistry 401, 402: General, Chemistry 505, 506: Analytical, Chemistry 601, 602, 603, 604: Organic, and Chemistry 611, 612, 613, 614: Physical. A minimum of 30 hours of chemistry is required.

## REQUIREMENTS FOR A MINOR IN CHEMISTRY

Chemistry 401, 402: General, Chemistry 505: Analytical, and enough additional hours to make a minimum of 21 hours of chemistry.

## ENTRANCE EXAMINATION

An entrance examination in chemistry will be given to all entering freshmen students who are scheduled to take Chemistry 401. Those students who are not prepared to take 401, as evidenced by the entrance examination, will be required to earn credit in Chemistry 400 before enrolling for Chemistry 401.

## DESCRIPTION OF CHEMISTRY COURSES

*Undergraduate credit only:*

**400: General Chemistry.** 0-2-2.* A lecture course in the basic principles of chemistry.

**401: General Chemistry.** 3-3-4. Pre'q., Passing grade on entrance examinations. Fundamental principles of chemistry for students who plan on taking analytical or physical chemistry.

**402: General Chemistry.** 3-3-4 or 6-3-5. Pre'q., Chemistry 401. Continuation of Chemistry 401. The laboratory work is semi-micro qualitative inorganic analysis.

**407: General Chemistry.** 3-2-3. Fundamental principles of chemistry for students of the life sciences who do not plan to take analytical or physical chemistry.

**408: General Chemistry.** 3-2-3. Pre'q., Chemistry 407 or 401. Continuation of Chemistry 407. Part of the laboratory work consists of semi-micro qualitative inorganic analysis.

*Graduate and undergraduate credit:*[1]

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

1. Graduate credit toward the M.S. in Chemistry will be allowed for the following 700 chemistry courses only: Chemistry 709, 712, 720, 723, 751, 765, 766 and 781. Graduate credit toward the M.S. in Chemistry is not allowed for 500 and 600 courses in chemistry.

505: **Quantitative Analysis.** 6-2-4. Pre'q., Chemistry 402. Theory and practice in gravimetric and volumetric analysis for inorganic materials.

506: **Quantitative Analysis.** 6-2-4. Pre'q., Chemistry 505. Quantitative inorganic analysis. More complex determinations will be made than those in Chemistry 505.

512: **Radiochemistry.** 3-2-3. Pre'q., Chemistry 402 or Chemistry 408. Fundamental principles of radiochemistry.

515: **Advanced Inorganic Chemistry.** 0-3-3. Pre'q., Chemistry 402. A thorough course in the properties and reactions of inorganic materials.

520: **Organic Chemistry.** 3-3-4. Pre'q., Chemistry 402 or 408. Chemistry of the carbon compounds with special emphasis upon those of importance to living organisms.

530: **Organic Chemistry.** 3-3-4. Pre'q., Chemistry 505. Chemistry of the carbon compounds with special emphasis on the compounds obtained from petroleum.

601: **Organic Chemistry.** 0-3-3. Pre'q., Chemistry 505. A more thorough study of the compounds of carbon. For students who expect to do further work in chemistry.

602: **Organic Chemistry.** 0-3-3. Pre'q., Chemistry 601. A continuation of Chemistry 601.

603: **Organic Laboratory.** 3-0-1 or 6-0-2. Pre'q., Chemistry 505 and simultaneous registration in Chemistry 601. Laboratory work in beginning organic chemistry.

604: **Organic Laboratory.** 3-0-1 or 6-0-2. Pre'q., Chemistry 601 and 603 and simultaneous registration in Chemistry 602. Continuation of Chemistry 603.

611: **Physical Chemistry.** 0-3-3. Pre'q., Mathematics 541 and Physics 502. Basic theories of chemistry with emphasis on the atomic-molecular theory and thermodynamics.

612: **Physical Chemistry.** 0-3-3. Pre'q., Chemistry 611. Basic theories of chemistry with emphasis on chemical thermodynamics, chemical kinetics, and electrochemistry.

613: **Physical Chemistry Laboratory.** 3-0-1. Pre'q., Chem. 505 and simultaneous registration in Chemistry 611. Laboratory experiments in physical chemistry.

614: **Physical Chemistry Laboratory.** 3-0-1. Pre'q., Chemistry 611 and 613 and simultaneous registration in Chemistry 612. Continuation of Chemistry 613.

630: **Physical Chemistry.** 3-3-4. Pre'q., One of the following courses: Chemistry 506, 520, or 601, also Mathematics 401 and 402. A descriptive course in physical chemistry not requiring calculus. Emphasis is placed on the physical chemistry of living organisms.

641: **Glass Blowing.** 3-0-1. Pre'q., Chemistry 402 and Physics 502. Fundamental techniques in making and repairing glass apparatus.

651: **General Biochemistry.** 3-3-4. Pre'q., Chemistry 408 or 402 plus either Chemistry 520, 530 or Chemistry 601. The chemistry of biologically important compounds including fats, carbohydrates, proteins, enzymes, vitamins, and hormones.

652: **General Biochemistry.** 3-3-4. Pre'q., Chemistry 651. A continuation of Chemistry 651.

700: **Chemical Research.** 3-0-1, 6-0-2, 9-0-3, Pre'q., junior standing. Credit toward the B.S. degree will not be given for more than four hours of Chemistry 700.

**702: Organic Qualitative Analysis.** 6-1-3. Pre'q., Chemistry 506 and 602. Systematic procedure for the separation and identification of organic compounds.

**709: Organic Synthesis.** 0-3-3. Pre'q., Chemistry 602. Methods of synthesis of some of the more important types of organic compounds.

**712: Organic Spectroscopy.** 0-3-3. Pre'q., Chemistry 602 and 702. Spectroscopic methods for the determination and identification of organic compounds and functional groups.

**720: Chemical Thermodynamics.** 0-3-3. Pre'q., Chemistry 612. Advanced chemical thermodynamics with special emphasis on non-ideal gases and high pressure chemical reactions.

**723: Colloid Chemistry.** 0-3-3. Pre'q., Chemistry 612. The chemistry of organic and inorganic dispersions and physicochemical methods for their study.

**751: Advanced Biochemistry and Physiological Chemistry.** 3-3-4. Pre'q., Chemistry 505 and 602 or simultaneously with Chemistry 602. Advanced study of the chemistry of biologically important compounds. Stress is placed on the role of these compounds in living organisms.

**765: Optical Methods of Analysis.** 6-1-3. Pre'q., Physics 502, Chemistry 505 and 612. Use of the colorimeter, visible and ultraviolet spectrophotometers, infrared spectrophotometer, emission spectrograph and Raman spectrograph.

**766: Electrical Methods of Analysis.** 6-1-3. Pre'q., Physics 502 and Chemistry 612. Use of electrodeposition, polarographic, amperometric, conductometric, and potentiometric methods of analysis.

**781: Systematic Inorganic Chemistry.** 0-3-3. Pre'q., Chemistry 612, 602. An advanced study of the periodic classification of elements, their reactions, and other inorganic principles.

*Graduate credit only:*

**801: Physical Organic Chemistry.** 0-3-3. Pre'q., Chemistry 602, 612. A study of the mechanisms of reactions and the methods used in their investigation.

**802: Polymer Chemistry.** 0-3-3. Pre'q., Chemistry 602, 612. A study of the principles of the formation of high polymers and the variations in structure that determine their properties.

**803: Chemistry of Natural Products.** 0-3-3. Pre'q., Chemistry 602. An introduction to the chemistry of naturally occurring compounds with particular emphasis on the steroids and alkaloids.

**820: Molecular Spectroscopy.** 0-3-3. Pre'q., Physics 502 plus either Physics 630 or 730, Chemistry 602, 612. The relationship between molecular spectra and molecular structure. Use is made of quantum mechanics and group theory.

**823: Special Topics in Physical Chemistry.** 0-3-3. Pre'q., Chemistry 612. Topics will vary and will include kinetic theory of gases, molecular structure, phase rule, photochemistry, nuclear chemistry, chemical kinetics, or statistical thermodynamics.

**824: Quantum Chemistry.** 0-3-3. Pre'q., Chemistry 612, Physics 630 or 730. Physical and chemical applications of quantum theory.

**851-2: Chemical Research and Thesis.** Three hours credit per semester.

**853: Plant Biochemistry.** 0-3-3. Pre'q., Chemistry 652 or 602. The occurrence, properties and physiological role of inorganic and organic compounds in plants.

854: **Chemistry of Microorganisms.** 0-3-3. Pre'q., Chemistry 652 or 602. Composition, metabolism and nutrition of microorganisms with particular emphasis on antibiotics, microbiological assays and immunology.

856: **Protein Chemistry.** 0-3-3. Pre'q., Chemistry 652 or 602. The chemical nature and physiology of both structural and metabolic proteins; their purification, isolation, synthesis and identification.

860: **Combustion Analysis.** 6-1-3. Pre'q., Chemistry 506 and 602. Micro and semimicro applications of combustion techniques, including the use of gas analysis techniques.

861: **Microchemistry.** 6-1-3. Pre'q., Chemistry 506, 612. Spot tests, inorganic qualitative micro-analysis and the use of the polarizing microscope in the identification of crystalline material.

863: **Advanced Techniques in Chemical Analysis.** 6-1-3. Pre'q., Chemistry 506, 602, 612. Solution and gas phase chromatography, paper chromatography and other advanced analytical methods.

884: **Chemistry of Coordination Compounds.** 0-3-3. Pre'q., Chemistry 781 A study of the structure, preparation, and properties of coordination compounds.

885: **Inorganic Preparations.** 6-0-2. Pre'q., Chemistry 781 or concurrent enrollment. A correlation between inorganic principles and theory and laboratory techniques for the preparation of inorganic compounds.

# Department of English and Foreign Languages

H. J. SACHS, HEAD OF THE DEPARTMENT

ENGLISH: PROFESSORS MARY FRANCES FLETCHER, H. J. SACHS, FRELLSEN SMITH, MILDRED WALKER, J. B. WILSON; ASSOCIATE PROFESSORS HARRY M. BROWN, A. Z. BUTLER, C. C. CHADBOURN, WINNIE D. EVANS, RUDOLPH FIEHLER, DWIGHT LEE, JOHN MILSTEAD, ROBERT C. SNYDER; ASSISTANT PROFESSORS G. EDWARD JONES, BETTYE RUTH KING, MARY LUCILE FOLK, EUGENIA M. JOHNSON; INSTRUCTOR MARTHA STRAYHORN; ACTING INSTRUCTORS KATHRYN JENKINS, MARY DOHERTY.

## FOREIGN LANGUAGES

F. O. ADAM, JR., ASSISTANT TO THE HEAD FOR FOREIGN LANGUAGES

FRENCH: ASSOCIATE PROFESSORS O. J. RICHARD, KATHLEEN DE COU THAIN

SPANISH: PROFESSOR FRANCIS O. ADAM, JR.; ASSISTANT PROFESSOR LOUISE MORGAN.

GERMAN: PROFESSOR H. J. SACHS; ASSISTANT PROFESSOR LOUISE MORGAN.

## REQUIREMENTS FOR A MAJOR

Each student who majors in the department is required to follow the curriculum for English, French, or Spanish. Not later than the end of his sophomore year he must, with the approval of the head of the department, choose his major and minor study and the rest of his program of work for his junior and senior years. A *major in English* consists of thirty hours, which must include English 401, 402; English 501, 502; English 718, English 722, English 727, and nine additional hours of English. Ordinarily a student may not receive credit for more than one of the following courses: 603, 632, 636. *A major in French* consists of thirty semester hours, which must include French 401-402 (or equivalent), 501-502, 600, 601, 602, 620, 621. *A major in Spanish* consists of eighteen semester hours in courses numbered 600 or above.

## REQUIREMENTS FOR A MINOR IN THE DEPARTMENT FOR STUDENTS IN OTHER DEPARTMENTS

Minor in English: 9 semester hours in addition to English 401, 402; and 501, 502. Ordinarily a student may not receive credit for more than one of the following courses: 603, 632, 636.

Minor in French: 21 semester hours, which must include French 401-402 (or equivalent) and 501, 502.

Minor in Spanish: 9 semester hours of courses in 600 group, plus prerequisites to these courses—21 semester hours.

## DESCRIPTION OF COURSES

### ENGLISH

*Undergraduate credit only:*

**401-402: Freshman English—Reading, Writing, Speaking, Use of Library.** 0-3-3 each.* English 401 is prerequisite to 402. Required of all stu-

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

dents. Objectives: to train the student to read, speak, and write correctly and effectively and to use books with efficiency and pleasure. Study of the forms of discourse; use of the library; writing of paragraphs, themes, letters; making of outlines; precis writing; making oral and written reports; word study; reading; review of punctuation, spelling, grammar; individual conferences with instructor.

**501, 502: Sophomore English—English and American Literature.** 0-3-3 each. English 402 prerequisite to 501 or 502. For the general student. English 501 is a study of selections from the greatest English writers beginning with Shakespeare and ending with the present. English 502 is a study of selections from the major American writers, beginning with Irving and ending with the present.

**603: Technical English.** 0-3-3. Pre'q., English 501 or 502. A course primarily for engineering students. A study of reports, letters, and other kinds of technical writing, and practice in writing these.

**608: The Short Story.** 0-3-3. Pre'q., English 501 or 502. The technique of the short story; literary appreciation. Students are offered opportunity to write original short stories if they desire to, but they are not required to do so.

**609: Parliamentary Usage; Organization Work.** 0-2-2. Open to all students. Theory and practice in parliamentary usage; how to form and conduct organizations; how to preside, make motions, transact business, etc.; constant drill and practice illustrating the rules and principles studied.

**619: Contemporary Drama.** 0-3-3. Pre'q., English 501 or 502. Chief contemporary dramatists—American, English, and European.

**621: Comparative Literature.** 0-3-3. Pre'q., English 502. A study of selected classics of foreign literature in translation.

**625: Contemporary English and American Poetry.** 0-3-3. Pre'q., English 501 or 502. A brief survey of English and American poetry of the twentieth century.

**632: Advanced English Grammar.** 0-3-3. Pre'q., English 502. Required of prospective English teachers, but open to all juniors and seniors.

**636: Advanced Writing.** 0-3-3. Pre'q., English 501 or 502. Advised, junior standing. A course in practical writing for those students who desire more practice in practical writing than is afforded in English 401-402.

**650: Materials and Methods in English.** 0-3-3. Pre'q., 12 hours of English. (Same as Education 650). The student will be introduced to the best techniques of organizing and presenting English material at the high-school level.

**652: Hebrew Literature in Translation.** 0-3-3. Pre'q., junior standing. The Greek and the Hebrew traditions in literature compared. Excerpts from the Old Testament, the New Testament, and the Apocrypha are studied as illustrating literary types: drama, philosophical poetry, lyric poetry, essay, and story.

*Undergraduate and graduate credit:*

**701: The American Mind.** 0-3-3. Pre'q., English 502.

**703: Chaucer.** 0-3-3. A study of the Canterbury Tales and other important works of the period.

**704: Milton.** 0-3-3. A study of Paradise Lost, Paradise Regained, and other poems by Milton.

705: **The History of English Literature.** 0-3-3. A systematic study of the history of English literature from the beginning to the present.

706: **The History of American Literature.** 0-3-3. A systematic study of the history of American literature from the beginning to the present.

707: **Principles and Techniques of Literary Criticism.** 0-3-3. A historical study of literary criticism. Practice in techniques of criticism.

710: **The English Novel.** 0-3-3. Pre'q., English 501 or 502. Chief English novels and novelists from the beginning to the present.

714: **English Poetry of the Nineteenth Century.** 0-3-3. Pre'q., English 501 or 502. A study of Romantic and Victorian Literature of nineteenth century England, with some attention to the social, political, and philosophical backgrounds. Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Arnold, and the Pre-Raphaelites.

718: **Shakespeare.** 0-3-3. Pre'q., English 501 or 502. Required of all English majors and prospective English teachers. A study of selected comedies, tragedies, and historical plays from the various periods in Shakespeare's development as a dramatist. Attention to speaking Shakespeare's lines; use of audio-visual aids.

722: **The English Language.** 0-3-3. Required of English majors and prospective English teachers. Pre'q., English 501 or 502. A study of the historical development of the English language from the Anglo-Saxon through Middle English to Modern English. Included in the study are language families, language fashions, slang and dialect, the psychology of language.

723: **English Words and Idioms.** 0-3-3. Pre'q., Junior standing. Rhetoric and logic as applied to critical thinking and creative expression. A study of semantics; exercises in propaganda analysis; vocabulary building

727: **The American Novel.** 0-3-3. Pre'q., English 501 or 502. The chief American novelists from the beginning to the present.

738: **Sixteenth Century English Literature.** 0-3-3. Pre'q., English 501 or 502. A study of the leading English writers of the sixteenth century, excluding Shakespeare.

739: **Seventeenth Century English Literature.** 0-3-3. Pre'q., English 501 or 502. A study of the leading English writers of the seventeenth century, such as Jonson, Donne, Sir Thomas Browne, Milton, Herrick, and Dryden.

740: **Eighteenth Century English Literature.** 0-3-3. Pre'q., English 501 or 502. A study of the leading English writers of the eighteenth century, such as Pope, Johnson, Swift, Burns, Gray, and Goldsmith.

750: **Nineteenth Century English Prose** (exclusive of the novel). 0-3-3. A study of such writers as Lamb, Hazlitt, Carlyle, Newman, and Ruskin.

751: **Elizabethan Drama** (exclusive of Shakespeare). 0-3-3. A study of such writers as Marlowe, Beaumont, Fletcher, Jonson, and Webster.

777: **Advanced Honors Class.** 0-3-3. Pre'q., junior standing and permission of instructor. Studies in language and literature; seminar plan.

*Graduate credit only:*

851-852: **Thesis Research.** 0-3-3 each.

## FRENCH

(See French Curriculum)

401-402: **Elementary French.** 0-3-3 each. Pre'q., freshman standing. No credit for 401 unless 402 is taken. Those with two years of high school French may take 501 instead of this course. Grammar, pronunciation, reading, elementary conversation, composition.

**501: Intermediate French.** 0-3-3. Pre'q., French 402 or two years of high school French. Review of French grammar; conversation; composition; reading.

**502: Intermediate French.** 0-3-3. Pre'q., French 501. A continuation of French 501, with emphasis upon reading.

**503: Technical and Scientific French.** 0-3-3. Pre'q., French 501. A continuation of French 501, with emphasis upon the reading of technical and scientific French. For science majors and pre-medical students only. (Students may not take both French 502 and 503 for credit).

**551: The Short Story in France.** 0-3-3. Pre'q., French 502 or permission of instructor. A study of the development of the short story in France, with reading of outstanding examples.

**600: Phonetics and Oral Reading.** 0-3-3. Required for major in French. Pre'q., French 502 or permission of instructor. An intensive study of the International Phonetic Alphabet; technique of oral reading.

**601, 602: French Conversation and Composition.** 0-3-3 each. Required for major in French. Pre'q., French 502 or permission of instructor. Conversation on practical everyday topics; reading and discussion of current French periodicals; themes.

**605: Contemporary French Literature.** 0-3-3. Pre'q., French 621 or permission of instructor. A survey of French literature from 1914 to the present, with reading of selective works.

**620, 621: Survey of French Literature.** 0-3-3 each. Required for major in French. Pre'q., French 502 or permission of instructor. A survey of French literature from the Middle Ages to modern times, with reading of selective works.

**651: The Novel in France.** 0-3-3. Pre'q., French 621 or permission of instructor. A study of the novel in France from the seventeenth century to 1914, with reading of outstanding examples.

**700: The Drama in France.** 0-3-3. Pre'q., French 621 or permission of instructor. A study of the drama in France from the Middle Ages to 1914, with special emphasis upon Corneille, Racine, and Moliere.

## GERMAN

**401-402: Elementary German.** 0-3-3 each. No credit for 401 unless 402 is taken. Pronunciation, reading, and grammar. The chief emphasis is upon reading.

**501-502: Intermediate German.** 0-3-3 each. Pre'q., German 402. 501 is prerequisite to 502. A continuation of elementary German, with chief emphasis upon reading. The students will read a good deal of technical prose in their major fields.

## SPANISH

(See Spanish Curriculum)

**401-402: Elementary Spanish.** 0-3-3 each. Pre'q., freshman standing. No credit for 401 unless 402 is taken. Those with two years of high school Spanish may take Spanish 501 instead of this course. Reading and grammar; pronounciation; elementary conversation. (Students with junior standings who plan to take only one year of Spanish and wish emphasis on oral and conversational aspects of the language should register for 401x-402x.)

**501, 502: (Formerly 411, 412): Intermediate Spanish.** 0-3-3 each. Pre'q., Spanish 402, two years of high school Spanish, or equivalent. 501 prerequisite to 502. Rapid reading of standard Spanish prose. Comprehension of spoken Spanish; oral practice. By the end of the course the student is expected to be able to read standard Spanish without aid of a dictionary or other vocabulary.

**601, 602: Conversation and Composition.** 0-3-3 each. Required for major in Spanish. Pre'q., Spanish 502 and 603-604 or 605-606 or consent of instructor. Conversation on everyday topics; themes.

**603, 604: The Novel in Spain.** 0-3-3 each. Pre'q., Spanish 502, or consent of instructor. Given in alternating years. A study of the novel in Spain from the sixteenth century to modern times. Reading of outstanding examples.

**605, 606: The Drama in Spain.** 0-3-3 each. Pre'q., Spanish 502 or consent of instructor. Given in alternating years. A study of the drama in Spain from the sixteenth century to modern times. Reading of outstanding examples.

**607: The Novel of Latin America.** 0-3-3. Pre'q., Spanish 502, or consent of the instructor. A study of representative novels of Latin America, Mexico excepted.

**608: Spanish Civilization.** 0-3-3. Pre'q., Spanish 502 or consent of the instructor. Lectures and readings in Spanish history, geography, government, language, music, art, etc.

**616: Commercial Spanish.** 0-3-3. Pre'q., Spanish 502 or permission of instructor. Study of common commercial forms for use in Spanish correspondence and business.

**625: The Novel in Mexico.** 0-3-3. Pre'q., Spanish 502, or consent of instructor. Summer school only. A study of outstanding novels from 1880 to contemporary times.

**650, 651: Aural Spanish.** 4-2-3 each. The class meets six hours a week. Pre'q., Spanish 502, or consent of instructor. This course is designed for intensive practice in the comprehension of spoken Spanish, primarily by the use of radio. Radio programs, moving pictures, phonograph records, lectures by native speakers whenever available, are used.

**750-751: The Spanish Language.** 0-3-3 each. Pre'q., 12 hours of Spanish in courses numbered 600 or above. A brief survey of Spanish grammar followed by an intensive study of the subject, with especial reference to Hispanic points of view. General characteristics of the language. An examination of several of the principal dialects. A study of the sources of the Spanish language with some study of etymology.

# Department of Journalism

KENNETH F. HEWINS, PROFESSOR AND HEAD OF THE DEPARTMENT
ASSISTANT PROFESSOR T. H. DOSHER

## REQUIREMENTS FOR A MAJOR IN JOURNALISM

The thirty-one semester hours required for a major in Journalism are Journalism 401 and 28 hours in advanced courses numbered in the 600 or 700 series, including Journalism 650, 651, 653, and 654.

For a minor, the student must complete 21 hours in a subject related to Journalism. Junior and senior courses in such fields as English are recommended as a minor with a Journalism major, although other subjects, such as the social sciences, may be selected upon approval of the Dean of the School of Arts and Sciences and the department head.

*Proficiency in spelling and grammar is essential to successful newspaper work. Students weak in those subjects are discouraged from enrolling in Journalism as a major.*

## REQUIREMENTS FOR A MINOR IN JOURNALISM

(For students in other departments)

Journalism 401 and eighteen hours of advanced Journalism courses, numbered in the 600 or 700 series, including any two courses in practical journalism, will constitute a minor in Journalism.

### THE COLLEGE NEWSPAPER

Practical experience in newspaper work is afforded the Journalism students through their work as staff members on *The Tech Talk*, the college newspaper, which is printed in the college's printing plant. In addition to their editorial work on the newspaper staff, the Journalism students are encouraged to gain experience through page make-up, etc.

## DESCRIPTION OF JOURNALISM COURSES

**401: News Writing.** 0-3-3*. May be taken with English 401. Beginning course in news writing. Theoretical study of newspaper style and mechanical terms.

**610: Copy Editing.** 0-3-3. Pre'q., Journalism 401. Course dealing with methods of editing copy and the writing of headlines.

*First number-laboratory hours per week; second, lecture hours per week; third, credit value.

620: **Feature Writing.** 0-3-3. Pre'q., Journalism 401. Practical instruction in gathering material for "human interest" and feature articles of various types and the writing of these types of manuscripts for magazines as well as newspapers.

630: **Editorial Writing.** 0-3-3. Pre'q., Journalism 401. Course in the study of fundamentals and practice in editorial writing.

640: **The Country Weekly.** 0-3-3. Pre'q., Journalism 401. Course designed to benefit agriculture and home economics students as well as journalism students. Consideration is given to the preparation of copy for weeklies as differentiated from the dailies.

650: **Practical Reporting.** 4-0-2. Open only to journalism majors or minors. Pre'qs., Journalism 401, 610, 620, 630 and 640. Writing of articles for publication in the college newspaper upon assignment or consultation with faculty supervisor.

651: **Practical Reporting.** 4-0-2. Pre'q., Journalism 650. Continuation of Journalism 650, with the same provisions and requirements applying.

653: **General Newspaper Work.** 4-0-2. Open only to Journalism majors. Pre'q., Journalism 651. Advanced course in copy editing, headline writing, proof reading and rewriting for the college newspaper.

654: **General Newspaper Work.** 4-0-2. Continuation of Journalism 653.

660: **Advertising.** 0-2-2. No pre'q. Fundamental study of advertising copy-writing, appeals and layout. Special emphasis is placed on retail advertising in newspapers.

674: **Industrial Publications.** 0-3-3. No pre'q. Study of the purposes, style, content and means of producing house organs and business periodicals of several types.

675: **Supervision of School Publications.** 0-3-3. No pre'q. Production of student annuals, newspapers and other publications by letter-press and offset printing and means of financing, designed to aid faculty sponsors.

676: **Sports News Coverage.** 0-2-2. Pre'q., junior or senior standing. Open to students of any school. Course designed to include keeping box scores, statistics, preparation of brochures and program pamphlets, publicizing athletic events and reporting of games.

750: **Public Relations.** 0-3-3. No journalism pre'q. This course deals with the nature of public relations. An attempt will be made to identify and explain human behavior, to describe how people react in social situations and to evaluate the importance of public opinion in the modern world. (Same as Management 750.)

# Department of Mathematics

W. B. TEMPLE, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSORS WALLACE HERBERT, G. E. JONES. W. E. KOSS, H. F. SCHROEDER, E. M. SHIRLEY; ASSOCIATE PROFESSORS L. M. GARRISON, HOLLIS HEARNE, D. E. JOHNSON, MARGARET SUMRALL, R. O. SUTTON; ASSISTANT PROFESSORS E. P. BURTON, ANNIS CAWTHON, JACKIE GARNER, J. D. GILBERT, MARTIN GOLDSWORTH, J. R. JOHNSON; INSTRUCTOR JAMES K. BREWER.

The courses in the department are designed as follows: (1) to provide general disciplines in mathematics in the core curriculum; (2) to serve the requirements of students pursuing specialized curricula in business, education, engineering, etc.; (3) to provide students majoring in mathematics a thorough preparation for teaching, graduate work, or for industry.

Prior to registration in Mathematics 540 a student majoring in mathematics from the School of Arts and Sciences, a student majoring in mathematics from the School of Education, or a student from the Engineering School having not had high school geometry will be required to have credit in Mathematics 403.

## MATHEMATICS PLACEMENT TESTS

At the beginning of each semester, including summer terms, a test or series of tests will be given to all beginning freshmen whose curricula call for Mathematics 401. The test is to be so designed as to separate the students into four groups A, B, C, and D. Students in these groups will register as follows:

A. Students in group A will be those whose scores are excellent and whose high school record shows at least the following credit in mathematics: One unit in plane geometry, one and one-half units in algebra, and one-half unit in trigonometry. They may register for Mathematics 540.

B. Students in group B will be those whose scores are average and who have had one unit in plane geometry. They may register for both Mathematics 401 and 402.

C. Students in group C will be those whose scores are poor and who have credit in plane geometry. They will register for Mathematics 400.

D. Students who make a poor score on the test and who have not had Plane Geometry will register for Mathematics 400 and Mathematics 403.

## REQUIREMENTS FOR A MAJOR IN MATHEMATICS

Students majoring in mathematics are required to consult the Head of the Department of Mathematics during the second semester of their sophomore year in college for direction as to their major and minor courses of study during their junior and senior years.

Prescribed courses for a major: Mathematics 401, 402, 540, 541, 616, 618, 706 and in addition nine semester hours in elective courses, six of which must be chosen from 700 courses.

Credit in Mathematics 403 or Mathematics 510 will not be allowed toward a major in Mathematics. Credit in Mathematics 400 may not be used as an elective by one majoring in mathematics.

## REQUIREMENTS FOR A MINOR IN MATHEMATICS

(For students in other departments)

Students in other departments who wish to minor in mathematics are required to take Mathematics 401, 402, 540, and in addition nine semester hours earned in courses numerically above Mathematics 540.

Credit in Mathematics 403 or Mathematics 510 will not be allowed toward a minor in Mathematics.

## DESCRIPTION OF MATHEMATICS COURSES

*Undergraduate credit only:*

**400: Intermediate College Algebra.** 0-3-3*. A thorough study of the elements of algebra including the laws of exponents, factoring, fractions, linear equations, and systems of linear equations.

**401: College Algebra.** 0-3-3. Pre'q., Mathematics 400 for group C (see placement tests above). Logarithms, quadratic and simultaneous quadratic equations, inequalities, progressions, binomial theorem, partial fractions, complex numbers, theory of equations.

**402: Trigonometry.** 0-3-3. Solution of right triangles, reduction formulas, functions of several angles and of multiple angles, trigonometric equations, inverse functions.

**403: Plane and Solid Geometry.** 0-3-3. An integrated course in plane and solid geometry for a student who has not taken plane geometry in high school, or for a student who needs demonstrative solid geometry.

**405: General Mathematics.** 0-3-3. Arithmetic—emphasis on principles of number systems, number bases, fundamental operations with whole numbers, common fractions, decimal fractions, percentage, approximate numbers and measurements. Algebra—elementary algebraic operations, signed numbers, simple equations, and factoring.

**406: General Mathematics.** 0-3-3. Mathematics 405 continued; Pre'q., Math 405. Algebra—fractions, radicals, quadratic equations, graphs and functions. Geometry—survey of ideas, the triangle, polygons, the circle, volumes and surfaces.

**510: Astronomy.** 0-3-3. Pre'q., six hours of college mathematics, or sufficient maturity. The earth, moon, sun, planets, coordinate systems, motion in solar system, the seasons, the galactic system.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

521: **Mathematics of Finance.** 0-3-3. Pre'q., Math 400. Simple and Compound Interest, Annuities, Amortization and Sinking Funds, Bonds, Depreciation, Perpetuities, Life Annuities, Life Insurance.

540: **Analytic Geometry and Calculus I.** 0-6-6. Pre'q., Mathematics 401 and Mathematics 402, (except group A. See placement tests above). This is an integrated course in analytic geometry and differential and integral calculus.

541: **Analytic Geometry and Calculus II.** 0-6-6. Pre'q., Mathematics 540. Mathematics 540 continued.

616: **Solid Analytic Geometry (formerly, Mathematics 502).** 0-3-3. Pre'q., Mathematics 540. Generalized vectors, Cartesian coordinates in space, the plane and straight line in space, surfaces in Cartesian, cylindrical and spherical coordinates, elementary matrix theory.

618: **Advanced College Algebra.** 0-3-3. Pre'q., Math 540 or consent of department head. Selected elementary topics from logic, number theory, and theory of matrices. The course is designed to introduce the student to abstract thinking with emphasis on proofs.

628: **Mathematical Statistics.** 0-3-3. Pre'q., Mathematics 540 or consent of of instructor. Proofs of statistical formulae, frequency distribution, central tendencies, probability, and sampling, correlation.

*Undergraduate and graduate credit:*

701: **College Geometry.** 0-3-3. Pre'q., Mathematics 540 or consent of instructor. Geometric construction, geometry of the triangle, properties of circles and systems of circles.

706: **Ordinary Differential Equations.** 0-3-3. Pre'q., Mathematics 541 or 650. Equations of first order and first degree, singular solutions, applications to geometry and physics, linear equations of higher order.

707: **Partial Differential Equations.** 0-3-3. Pre'q., Mathematics 706. Lagrange's equation, Lagrange and Charpit's method for solving an equation of first order, linear equations of higher order.

708: **Theory of Equations and Determinants.** 0-3-3. Pre'q., Mathematics 540 or 550. Numerical solutions of equations, determinants, systems of linear equations, symmetric functions, resultants.

710: **Advanced Engineering Mathematics.** 0-3-3. Pre'q., Mathematics 541 or 650. Power series, Taylor's formula, applications, complex series, Fourier series, functions of several variables.

711: **Advanced Engineering Mathematics.** 0-3-3. Pre'q., Mathematics 541 or 650. Vectors; fundamental operations and applications; linear vector spaces and matrices; coordinates and function; transformation theorems; application.

713: **Foundations and Fundamental Concepts.** 0-3-3. Pre'q., Mathematics 541 or 650, or consent of instructor. Foundations of geometry, algebraic structure, sets, Boolean algebra, symbolic logic.

714: **Numerical Analysis.** 0-3-3. Pre'q., Mathematics 706 or consent of instructor. Difference Calculus, modern numerical methods in solving algebraic equations, ordinary and partial differentiation.

716: **Modern Algebra.** 0-3-3. Pre'q., Mathematics 540 or consent of instructor. Number systems, number theory and nature of proof, equivalences and congruences, groups, rings, ideals, fields, Boolean algebra, matrices, and determinants.

720: **Advanced Calculus.** 0-3-3. Pre'q., Mathematics 650 or 541. A rigorous introduction to the calculus of functions of one real variable. Limits, continuity, differentiation, integration and infinite series.

724: **Analogue Computer Techniques.** 0-3-3. Pre'q., Mathematics 706. Programming for the analogue computer with special emphasis on solving systems of ordinary differential equations.

725: **Digital Computer Techniques.** 0-3-3. Pre'q., Mathematics 706. Basic

algorithms, probability, number systems, logic, Boolean algebra, applications to switching circuits, and simulations of digital devices.

728: **Mathematical Statistics, Mathematics 628 continued.** 0-3-3. Pre'q., Mathematics 628 and Mathematics 650 or 541. Probability, distribution theory, derivation of probability function of Gauss, sampling distribution, test of significance.

730: **Projective Geometry.** 0-3-3. Pre'q., Mathematics 540 or consent of instructor. Ideal elements, duality, harmonic sets, projectivity, projective theory of conics, theory of poles and polars.

740: **Operations Analysis I.** 0-3-3. Pre'q., Mathematics 540. An introduction to the methods of operations analysis. Linear programming, game theory, and queing theory. Computational techniques.

741: **Operations Analysis II.** 0-3-3. Pre'q., Mathematics 740. A continuation of Mathematics 740.

*Graduate credit only:*

802: **Selected Topics in Mathematics.** 0-3-3. Pre'q., Mathematics 706. Solutions of differential equations of Legendre, Gauss, Hermite, Tschebyscheff, Laguerre, and Bessell, properties of these solutions, and boundary value problems.

806: **Ordinary Differential Equations.** 0-3-3. Pre'q., Math 706. Linear differential equations with variable coefficients, systems of ordinary differential equations, existence theorems, oscillations and comparison theorems for second-order linear equations, and the Sturm Liouville system.

814: **Vector and Tensor Analysis.** 0-3-3. Pre'q., Mathematics 541 or consent of instructor. The algebra of vectors, differential vector calculus, differential geometry, integration, static and dynamic electricity, mechanics, hydrodynamics, and electricity, tensor analysis and Riemann geometry, further applications of tensor analysis.

838: **Theory of Functions of Real Variables.** 0-3-3. Pre'q., Mathematics 720. Fundamental logical concepts, sets and operations, the real Reimann integral, uniform convergence, measure theory, Lebesgue integral, Stieltjes integral.

842: **Theory of Functions of Complex Variables.** 0-3-3. Pre'q., Mathematics 720. Complex numbers, point sets, analytic functions, infinite series, integration, and conformal mapping.

844: **Modern Operational Mathematics.** 0-3-3. Pre'q., Mathematics 706. Theory and applications of transforms of Laplace and Fourier, inverse transforms by complex variable methods. Applications to analysis and linear operations.

848: **Historical Development of Mathematics.** 0-3-3. Pre'q., Mathematics 650 or 540, or consent of instructor. An historical account of the development of mathematical ideas.

851: **Research.** 0-3-3. Pre'q., consent of instructor and advisory committee. Directed reading and research in mathematics.

852: **Thesis.** 0-3-3. Pre'q., Mathematics 851. Preparation of a thesis in mathematics leading to the Master of Science degree.

860: **Introduction to Topology.** 0-3-3. Pre'q., consent of instructor. An introduction to the theory of point sets and abstract spaces with applications to analysis and linear operations.

862: **Linear Algebra and Matrix Theory.** 0-3-3. Pre'q., Mathematics 708 or Mathematics 716. Linear systems, vector spaces, matrices, transformations on a vector space, linear transformations, unitary and Euclidean vector spaces.

866: **Abstract Algebra.** 0-3-3. Pre'q., Mathematics 716. Concepts from set theory, system of natural numbers, semi-groups, groups, rings, integral domains, fields, extensions of rings and fields, modules, ideals, finite dimensional vector spaces, and linear transformations.

# Department of Music

LaVERNE E. IRVINE, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSOR MARSHALL E. BRETZ.
ASSOCIATE PROFESSORS DUCHEIN CAZEDESSUS, EDITH COTTON, DORIS BURD HASKELL, JOE SHEPPARD, MARY ELAINE WALLACE; ASSISTANT PROFESSORS JOHN R. LUCE, ALFRED E. TELLINGHUISEN.

## REQUIREMENTS FOR A MAJOR IN MUSIC OR FOR SPECIALIZATION IN MUSIC

These requirements are given under the Bachelor of Music curriculum and the Music-Major curriculum, but the student is required to consult the head of the department and the dean for approval of his electives, etc.

## REQUIREMENTS FOR A MINOR IN MUSIC

(For students from other departments)

1. With emphasis in theory:
   Theory—12 semester hours
   Applied Music (may include 3 semester hours in ensemble)—7 semester hours
   Music Literature—2 semester hours
   Total—21 semester hours
2. With emphasis in applied music:
   Applied Music—12 semester hours
   Free electives in music (may include 4 semester hours in ensemble)—7 semester hours
   Music Literature—2 semester hours
   Total—21 semester hours

In applied music, courses beginning with the numbers 4, 5, 6, or 7 ordinarily mean first, second, third, or fourth year courses respectively. Courses ending in 50 or 51 (for example, 450, 451) carry three hours of credit per semester. Usually in these courses the student receives two private half-hour lessons per week; in some cases, however, the student receives one private half-hour lesson per week and one class lesson per week of one hour duration. Courses ending in 52 or 53 carry two hours of credit per semester. A student may receive one private lesson per week of half-hour duration or he may be assigned to a class meeting two hours per week. Courses ending in 54 or 55 carry one hour of credit per semester. These courses usually require attending class one hour per week.

In all applied music, the number of hours devoted to practice is the primary factor involved. The number of hours of practice per week depends upon the amount of credit involved in the course. However, the number of semester

hours of credit placed on the permanent record of the student will depend entirely upon the number of hours actually devoted to practice. This stipulation is in accordance with the regulations of the National Association of Schools of Music.

In ensemble work, no student will receive more than two hours credit per semester for ensemble work; music majors only one hour credit per semester. Ensemble requirements and credits for music majors are a separate setup, varying with individuals. No work is more important for prospective music teachers. Majors must have this work approved by the department head each semester. They are required to do ensemble every semester and summer session they are enrolled in a music course. All instrumented majors do both band and orchestra work. Piano majors enroll in choral ensemble. All non-majors taking applied music are required to enroll in appropriate ensemble work.

Students who take eighteen hours or more in a field of applied music are required to give a graduation recital. This stipulation may be modified for those who complete requirements for a certificate to teach in the State of Louisiana. Those working toward the Vocal-Instrumental Certificate may meet the requirement by performing a single group on a graduation recital. During the term preceding his appearance on a graduation recital, the student will be given a qualifying audition by an Auditions Committee. In this audition the student may be asked to play scales, technical exercises, studies, or excerpts from the proposed recital. If, in the opinion of the faculty, the student has not achieved sufficient mastery in his chosen major to qualify as a graduate, he will be denied the privilege of giving his recital and will be given a failing grade.

*Positive Professional Attitude* is of primary importance due to problems peculiar to this field. Because of the necessarily higher cost of training in music due to the fact that so much of the instruction must be given on a private, or an individual basis, the department will restrict any special privileges, awards, scholarships, et cetera to those who reveal a positive professional attitude by regular attendance at rehearsals, recitals, concerts, clinics, workshops, festivals and departmental meetings and conferences called by the department head. Those who fail to adjust to the obligation to participate satisfactorily in these professional activities, or to maintain satisfactory practice records, will be dropped from the department regardless of grades in the purely academic courses in music.

*Academic electives for professional majors* in music are approved according to individual needs; e.g., voice majors are required to elect foreign language.

*Because of the necessary variable in the music curricula the student must confer once each session with the Head of the Department* for the purpose of checking his own progress with his individual advisory sheet as maintained in the Music Department office.

Louisiana Polytechnic Institute is an associate member of the National Association of Schools of Music.

## DESCRIPTION OF MUSIC COURSES

### I. THEORY AND METHODS

**410: Fundamentals of Harmony.** 0-3-3*. Terminology; science of tone relationship; keyboard; ear training; sight singing; rhythmic, melodic and harmonic dictation; form and analysis.

**411: Fundamentals of Harmony.** 3-2-3. Continuation of work started in 410.

**412: Elementary Keyboard Harmony.** 6-0-2. (Open to non-majors). General keyboard facility; sight reading of folk-tunes and easy classics; simple repertory, harmonization of simple melodies; elementary improvisation.

**413: Elementary Keyboard Harmony.** 6-0-2. (Open to non-majors). Continuation of 412.

**501: Fundamentals of Harmony.** 3-2-3. Continuation of 411.

**502: Fundamentals of Harmony.** 3-2-3. Continuation of 501.

**510: Advanced Sight Singing.** 0-3-3. For development of advanced proficiency in singing or playing at sight.

**520: Intermediate Keyboard Harmony.** 6-0-2. Continuation of 413 in developing facility at the keyboard.

**521: Intermediate Keyboard Harmony.** 6-0-2. Continuation of Music 520.

**530: School Music.** 2-1-2. Fundamentals of music, study of rhythm, sight singing, rote songs and interpretation. This course is designed to give the prospective classroom teacher some materials and methods for teaching music in the elementary schools.

**531: School Music.** 2-1-2. Continuation of 530.

**542: Introduction to Church Music.** 0-2-2. An elementary course in the history of the development of sacred music with special emphasis on the liturgies of the pre-Christian church, the early church musical worship to the time of the Reformation and the growth of the various Protestant movements in Europe with the accompanying chants, hymns, and services.

**601: Advanced Harmony.** 0-3-3. Continuation of 502. Upon satisfactorily passing an examination on the subject matter the student may take any of the following courses in place of 601: 612, 640, 680, 681, or 702.

**602: Advanced Harmony.** 0-3-3. Continuation of 601. Upon satisfactorily passing an examination on the subject matter the student may take any of the following courses instead of 602: 612, 640, 680, 681, or 702.

**612: Advanced Keyboard Harmony.** 6-0-2. For development of great facility in transposition, modulation and improvisation.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

620: **History of Music.** 0-3-3. A study of the evolutionary development of music. Numerous recorded examples are used.

621: **History of Music.** 0-3-3. Continuation of 620.

630: **Music Appreciation.** 2-1-2. A cultural course designed to develop intelligent consumers of music through discriminative listening to selected compositions from the 16th century to the present. (For non-majors from any school).

635: **Music for Pleasure.** 2-1-2. A course designed for Physical Education majors but open to others. Emphasizes singing for pleasure, instruction in proper use of the voice, playing of some simple instrument(e.g., the tonette), with technical knowledge of music introduced only incidentally. Designed to develop the ability to lead groups in musical activities for recreational purposes.

640: **Form and Analysis.** 0-2-2. A more advanced and specialized study of forms, not possible in 501 or 502. Emphasis on sonata and rondo forms.

641: **American Church Music.** 0-3-3. A study of the music of the pioneer churches in America; the development of American church music resulting from nineteenth century evangelism; the twentieth century American scene, with its tremendous growth of specialization in musical worship. Musical scores of important works such as Parker's "Hora Novissima" and Sowerby's "Canticle of the Sun" will be studied.

660: **Methods and Materials for Elementary Schools.** 2-1-2. A course emphasizing procedures, materials, and problems up to the high school level. It includes directed observation with discussions.

662: **Piano Pedagogy and Material.** 3-1-2. Pre'q., 15 hours in piano. This course is intended for those expecting to become private teachers of piano. It is required by the State Department of Education for those wishing their pupils to be eligible for credit in piano in the local high schools.

672: **Vocal Pedagogy and Materials.** 0-2-2. Procedures, materials and methods. Designed for those planning specialization in teaching of voice.

674: **Drum Majoring.** 3-0-1. A study of fundamental technique of baton twirling with basic instruction in band formation, drill, and parade.

680: **Composition.** 0-2-2. Pre'q., two years of theory. Elementary writing in the simple song forms.

681: **Composition:** 0-2-2. Pre'q., five semesters of theory. Continuation of 680 in more advanced forms.

701: **Counterpoint.** 0-3-3. Pre'q., one year of theory. Simple counterpoint in the five species in two, three, and four voices. Writing of original canons.

702: **Counterpoint.** 0-3-3. Pre'q., two years of theory and 701. Continuation of 701. Writing in combined species in three and four voices. Work in canon and fugue.

712: **Orchestration.** 0-3-3. Pre'q., five semesters of theory. A study of the individual characteristics, range, and capabilities of the instruments of the orchestra and band. Some arranging and scoring for varied groups. Some performance with the individual student conducting his own arrangement.

720: **Conducting.** 2-0-2. Pre'q., two years of theory. Technique of the baton, score reading, principles of interpretation, and problems which face the conductor. The work will be adapted to the individual's needs with respect to vocal or instrumental emphasis.

**724, 725: Conducting.** 2-0-1. Work of 720 reduced to two semesters of training and experience.

**741: Organization and Administration of Church Music.** 0-3-3. The organization of a music program, with reference to adult and youth choirs; the planning of special services, and a complete survey of the anthem, solo and oratorio materials. A series of field trips is planned to nearby communities to study the full-time music program in some of the larger churches.

**760: Problems, Materials and Administration.** 0-3-3. A course which anticipates many of the practical problems which will confront the secondary teacher and supervisor of vocal and instrumental music; e.g., program building, contests, festivals, requisitions, grading, materials, scheduling, rehearsing, technical review of the instruments, etc.

**762: Class Piano Methods and Practice Teaching.** 3-1-2. Study of methods in teaching piano pupils of different age levels. Practice in teaching pupils who do not wish college credit for their work.

**774, 775: Seminar.** 0-1-1 each. Discussions and guided research based upon professional problems which confront the musician and the teacher.

## II. APPLIED MUSIC

### A. PIANOFORTE

### 1. PIANO MAJORS

**450, 451: Freshman Piano.** 9-1-3 each. To enter the four-year degree course in piano, the student should be grounded in the correct touch and reliable technique. He should play all major and minor scales correctly in moderately rapid tempo; also broken chords in octave position in all keys. Op. 299 of Czerny and some of Heller's Op. 45, 46, 47. He should study Hanon's technic and at least twelve of Bach's two-part Inventions, memorizing Nos. 1, 8, and 14. Additional assigned compositions of elementary difficulty.

**550, 551: Sophomore Piano.** 9-1-3 each. During this year, the student should acquire a technique sufficient to play scales in sixths and tenths and dominant and diminished seventh arpeggi in rapid tempo. He should study selections from Czerny's Opus 740 and Cramer's 84 Studies. He should also study Bach's Three-Part inventions Nos. 2, 3, 4, and 7. Additional assigned compositions of intermediate difficulty.

**650, 651: Junior Piano.** 9-1-3 each. Scales in doubles thirds and dominant and diminished seventh arpeggi in rapid tempo. Bach's three-part Inventions Nos. 8, 10, 14, 15 and several of Czerny's Op. 740. He should study Chopin Etudes, Bach Prelude and Fugue in C Minor; also selected studies from Clementi's Gradus Ad Parnassum. Additional assigned compositions of advanced difficulty.

**750, 751: Senior Piano.** 9-1-3 each. At the end of this year, the student must have acquired the principles of tone production and velocity and their application to scales, arpeggi, chords, octaves and double notes. He must have a repertoire including compositions by the principal classic, romantic and modern composers. Assigned compositions requiring maturity of technical and interpretive skills.

### 2. PIANO MINOR (FOUR YEARS)

**452, 453:** 6-½-2 each. Instruction in basic techniques of piano playing.

**552, 553:** 6-½-2 each. At the end of the second year, the student should

have learned all major and minor scales and dominant seventh arpeggios. He should be able to play a number of studies in Czerny-Liebling, Book II, and some of Heller Op. 45 and 47. He should be able to play compositions such as Beethoven's "Minuet in G," MacDowell's "To a Wild Rose," Beethoven's "Contra Dance," sonatas by Mozart and Hayden.

652, 653: 6-½-2 each. At the end of the third year he should be able to play Bach's Two-Part Inventions Nos. 1, 8, 14 from memory and should have begun Czerny Op. 740. He should have studied compositions of such difficulty as Chopin's "Minute Waltz," "Valse in E Minor," and Mendelssohn's "Song Without Words."

752, 753: 6-½-2 each. During the fourth year the student should acquire a technique sufficient to play scales in sixths and tenths and dominant and diminished seventh arpeggio in rapid tempo. He should study selections from Czerny p. 740 and several of Bach's Three-part Inventions. He should be able to play at sight simple accompaniments and hymn tunes. For voice and intrumental majors and others desiring to obtain a minor in Piano.

### B. VIOLIN

450: **Freshman Violin.** 9-1-3. Scales. Selected studies from Mazas Op. 36, Book I; Violin Technics by Sevcik: Selections from the Kreutzer Solo by Godard, Drdla, Saint-Saens, Borowski. One sonata by Corelli Op. 5, Volume II. One concerto by Seitz, Violi or De Beriot.

451: **Freshman Violin.** 9-1-3. Scales in three octaves. Completion of the Mazas Studies, Op. 36, Book I: Selections from the Kreutzer studies. Solo by Godard, Drdla, Saint-Saens, Borowski. One sonata by Coreilli. One concerto by Viotti, Kreutzer or De Beriot.

452, 453: **Freshman Violin** (For minors) 6-½-2 each. Studies and selections according to the needs and degree of advancement of the individual student.

550: **Sophomore Violin.** 9-1-3. Selections from the Kreutzer Studies and and the Sitt Studies Op. 80, Book I. Solos by Bach, Beethoven, Ries, Wieniawski, Kreisler. One sonata by Corelli, Nardine, or Handel, One concerto by Bach, Kreutzer. or De Beriot.

551: **Sophomore Violin.** 9-1-3. Selected studies by Kreutzer and Sitt. Solo by Bach, Brahms, De Beriot, Kreisler and others. One concerto by Bach, Mozart or Rode.

650: **Junior Violin.** 9-1-3. Completion of the Kreutzer Studies. Selections from Fiorillo Caprices. Solo by classic and modern composers. Selections from the Bach Sonatas for violin alone. One concerto by Bach, Mozart or Godard.

651: **Junior Violin.** 9-1-3. Selections from the Fiorillo Caprices. Selections from the Bach Sonatas for violin alone. Solo selected. One concerto by Mozart, Wieniawski, or the Mendelssohn in E minor.

750: **Senior Violin.** 9-1-3. Completion of the Fiorillo Caprices. Selections from the Rode Studies. Selections from the Bach Sonatas. One concerto: Mendelssohn, Wieniawski or Bruch. Selected solos by Vieuxtemps, Wieniawski, Sarasate, Kreisler and others.

751: **Senior Violin.** 9-1-3. The work of this semester will be spent in building up a repertoire in preparation for the graduating recital. Selections must include a sonata by Bach, Handel, or Beethoven, and a concerto by Bach, Mendelssohn, Mozart, Bruch, Lalo, or Wieniawski.

### C. VOICE

#### 1. MAJORS

It is recommended that voice majors show some knowledge of piano before entering voice work.

**432: Voice Class.** 6-0-2. Elements of breath control, tone placement, posture, and diction. Repertory of simple art songs.

**433: Voice Class.** 6-0-2. Continuation of 432.

**450: Freshman Voice.** 9-1-3. Elementary instruction in breathing, tone placing, vowel formation. Introduction to Concone.

**451: Freshman Voice.** 9-1-3. Continuation of Voice 450.

**550: Sophomore Voice.** 9-1-3. Exercises for agility and for sustaining tone. Major and minors scales and arpeggio.

**551: Sophomore Voice.** 9-1-3. Study of classic vocal embellishments, the recitative. The voice student must be able to sing at least one of the less exacting arias from opera and oratorio as well as several standard songs from memory.

**650: Junior Voice.** 9-1-3. Study of selections from the Anthology of Italian Songs, Volumes I and II, as well as some English, French and German songs and arias.

**651: Junior Voice.** 9-1-3. Continuation of Voice 650.

**750: Senior Voice.** 9-1-3. Continuation of Voice 651.

**751: Senior Voice.** 9-1-3. Intensive study of opera, oratorio and the best English, French, Italian and German song literature. The student must have a repertoire of at least four operatic arias, four oratorio arias, twenty classic and twenty standard modern songs. A graduation recital must be prepared and presented satisfactorily before credit may be received in this course.

### 2. NON-MAJORS

**452, 453: (For non-voice majors).** 6-½-2 each. One private and one class lesson per week. Instruction in posture, breathing, tone placement and vowel formation.

**552, 553: (Sophomore voice for non-voice majors).** 6-½-2 each. Technical studies continued, supplemented by the study of simple songs.

**652, 653: (Junior voice for non-voice majors).** 6-½-2. each. Advanced technical study, supplemented by the study of songs of medium difficulty.

**752, 753: (Senior voice for non-voice majors).** 6-½-2 each. Technical studies continued, supplemented by study of a varied repertoire of songs.

## D. BRASS, PERCUSSION, WOODWIND INSTRUMENTS AND OTHER INSTRUMENTS OF THE STRING SECTION

These instruments may be studied privately on the following basis which meets the standards of the Southern Association of Colleges and Secondary Schools and the National Association of Schools of Music: Applied Music Courses ending in 50 or 51 (e.g. 450 or 451); 2 half hours lessons with 9 hours practice weekly earns 3 semester hour credits.

Applied Music Courses ending in 52 or 53 (e.g. 452 or 453); 1 half hour lesson, with 6 hours practice weekly earns 2 semester hour credits.

In the Summer Session Applied Courses ending in 52 or 53:2 half hour lessons with 10 hours of practice weekly earns 2 semester hour credits.

In the Summer Session Applied Music Courses ending in 54 or 55 (e.g. 454 or 455;) 1 half hour lesson with 5 hours practice weekly earns 1 semester hour credit.

Applied Music Courses ending in 54 and 55 (1 semester hour) are not given on a basis of private lessons in the fall or spring semester, but occasionally are offered (e.g. percussion) on the basis of 3 class laboratory lessons per week with no outside practice for 1 semester hour of credit.

### E. PIPE ORGAN

A limited number of interested students having the prerequisite pianistic ability may now study organ as a regular part of their college work regardless of whether or not they are music majors.

Entrance requirements to the organ course leading to a certificate of organ playing are the following:

The student should be able to play all major and minor scales on the piano. He should have a thorough understanding of the principles of piano technique, a thorough facility in sight-reading, and an adequate knowledge of harmony. The student should be able to play some of the following representative works on the piano: Chopin Etudes, Sonatas by Mozart, Haydn or Beethoven, any of the Preludes and Fugues from Bach's "Well-Tempered Clavichord," and an Intermezzo or Rhapsody by Brahms.

**452: Freshman Organ.** 6-½-2. Manual and pedal technique from one or more of the following texts: "The Art of Organ Playing," Dickinson; "The Art of Organ Playing," W. T. Best; "Methods of Organ Playing," Gleason; assorted chorale preludes by Bach and Brahms; Slow movements from any of the six sonatas by Mendelssohn; short preludes and fugues, "Little Fugue in G Minor" and "Jesu, Joy of Man's Desiring," Bach.

**453: Freshman Organ.** 6-½-2. Continuation of Organ 452.

**552: Sophomore Organ.** 6-½-2. Continuation of Pedal Exercises and studies for Manuals and Pedal. Selection of work from Bonnet Historical Recital Series, Vols. I and II; Gabrieli, Buxtehude, Pachelbel, Couperin and others; Franck's "Pastorale," Bach's "Ich ruf' zu dir, Jesu Christ" and "In dir ist Freude;" shorter pieces for church and recital by modern American and European composers.

**553: Sophomore Organ.** 6-½-2. Continuation of Organ 552.

**652: Junior Organ.** 6-½-2. A thorough preparation for church service playing, with special emphasis on hymn playing, improvisation, accompanying and conducting anthems from the organ console. Franck's "Prelude, Fugue and Variation," "Cantabile" and "Piece Heroique," one complete sonata from the six Mendelssohn sonatas, assorted movements from the Ten Symphonies of Widor; shorter works for recital programs by Langlais, Dupre, Handel, Jongen, James, Dickinson, Delamarter, Sowerby, and other.

**653: Junior Organ.** 6-½-2. Continuation of Organ 652.

**752: Senior Organ.** 6-½-2. Trio Sonata I or VI, Bach; Choral in A minor, Franck; Choral in E major, Franck; Toccata and Fugue in D minor, Toccata in F major, prelude and Fugue in E flat major (St. Ann's) all

by Bach; selected movements from the six symphonies of Vierne; shorter work for recital programs by Bingham, Dallier, Edmundson, Karg-Elert, Maleingreau, Vaughn-Williams, Weitz, and others. An acquaintance with a wide organ repertoire will be stressed with classes for advanced students in playing, repertoire, and criticism of concert decorum.

**753: Senior Organ.** 6-½-2. Continuation of Organ 752.

F. HARP

A limited number of students, either non-majors or majors in music, may study harp. Prerequisite, a satisfactory degree of proficiency in piano.

G. ENSEMBLES

BAND-O'-GLEE

This is a choral organization of women students of the three upper classes. It affords an excellent opportunity for the enjoyment of group singing of some of the best literature for women's voices. Public appearances of this group are popular events. Admission by tryout; two one-hour rehearsals a week. One hour credit per semester.

FRESHMAN GIRLS' GLEE CLUB

This club is open to all freshman girls who like to sing and who have sung previously in any school or church choral group. The quality of performance attained within the few months the girls work together makes this group welcome visitors to the various schools it visits on its annual tour. Two one-hour rehearsals per week. One hour credit per semester.

MEN'S GLEE CLUB

This club is open to any Tech men who like to sing. The music is restricted to numbers which are favorites with college male glee clubs the country over. Two one-hour rehearsals a week. One hour credit per semester.

TECH BAND

Membership is open to all students interested in continuing the pleasure of performing in an instrumental ensemble. An effort is made to provide an interesting and stimulating musical experience for all who participate. Every student who has played an instrument previously is encouraged to enroll in either the marching band or concert band—one semester hour.

TECH CHOIR

This organization affords a rich cultural and recreational experience in singing a great variety of music literature for mixed voices. While membership is open to all Tech students, off-campus appearances are made by a selected group.

### TECH SYMPHONY ORCHESTRA

Symphonic music is rapidly increasing in popularity. Most of the great masters did some of their best composing for symphony orchestra, and the most satisfying way of knowing this literature is by playing it.

Since strings are the foundation of a symphony, all who play stringed instruments are urged to join this organization. Two one-hour rehearsals weekly. One hour credit per semester.

### OPERA WORKSHOP

This is a non-credit activity sponsored by the Music Department and is open to all students who can qualify. In this activity the student receives enjoyable and profitable experience in rehearsing and performing in various types of musical productions.

# Department of Physics

H. E. RUFF, PROFESSOR AND HEAD OF THE DEPARTMENT
ASSOCIATE PROFESSORS G. PAUL BONNER, WILLIAM H. BRUMAGE, ROBERT L. CASON, J. EDWARD DOWDEY, ROBERT ELIOFF; ACTING INSTRUCTOR BARNEY W. HART, JR.

## REQUIREMENTS FOR A MAJOR IN PHYSICS

Each student who majors in Physics is required to follow the Physics curriculum leading to the degree of B.S. in Physics. A minimum of forty semester hours is required for a major in Physics, including Physics 501, Physics 502, and thirty-two semester hours in advanced courses. Each student who majors in Physics is required to choose a minor in Mathematics.

## REQUIREMENTS FOR A MINOR IN PHYSICS

Students from other departments who elect a minor in Physics should complete Physics 501, Physics 502, and in addition fourteen semester hours in advanced courses.

## DESCRIPTION OF PHYSICS COURSES

*Undergraduate credit only:*

Not more then two courses in the 500 series may be counted for credit.

**501: General Physics.** 3-3-4*. Pre'q., Mathematics 540. Thorough treatment of fundamental principles and detailed analysis of important physical situations.

**502: General Physics.** 3-3-4. Pre'q., Physics 501, Mathematics 541. A continuation of Physics 501.

**505: Descriptive Physics.** 0-3-3. For non-science majors interested only in the cultural aspects of the subject.

**506: Descriptive Physics.** 0-3-3. A continuation of Physics 505.

**509: Elementary Physics.** 3-3-4. Pre'q., Mathematics 401-402. For pre-medical, pre-dental, pre-pharmacy, and science education students. A study of the fundamental principles of physics and their applications.

**510: Elementary Physics.** 3-3-4. Pre'q., Physics 509. A continuation of Physics 509.

**512: Elements of Radiological Physics.** 3-2-3. Pre'q., Chemistry 402 or 408, Physics 506. A descriptive introduction to the fundamentals of radiological physics.

**604: Physical Optics.** 3-3-4. Pre'q., Physics 502. A thorough exposition of wave motion and quantum theory as they are related to optics. Stress is placed upon the structure and use of optical instruments.

**607: Heat.** 3-3-4. Pre'q., Physics 502. Classical theory and quantum theory of heat. Experimental methods and thermodynamic theory.

**608: Sound.** 3-3-4. Pre'q., Physics 502. Physics of vibrations including audible, very low and very high frequencies.

**618: Solid State Physics.** 3-3-4. Pre'q., Physics 630. An elementary treatment of representative aspects of the physics of solids.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

630: **Modern Physics.** 3-3-4. Pre'q., Physics 502. An advanced course in general physics stressing the modern developments of the subject.

631: **Modern Physics.** 3-3-4. Pre'q., Physics 630. A continuation of Physics 630.

*Undergraduate and graduate credit:*

In addition to the courses listed below the graduate student in education may pursue any physics course in the 600 series for graduate credit.

701: **Experimental Physics.** 3-0-1. Pre'q., Physics 631. This course gives the student an indoctrination in the actual laboratory techniques employed by the research physicist.

702: **Experimental Physics.** 3-0-1. Pre'q., Physics 701. A continuation of Physics 701.

703: **Electricity and Magnetism.** 3-3-4. Pre'q., Physics 631. A study of the fundamental theories of electricity and magnetism. An application of basic principles is stressed.

720: **Physical Mechanics.** 3-3-4. Pre'q., Physics 631. Statics, particle dynamics, dynamics of a rigid body, kinetic theory, elasticity, wave motion, and the behavior of fluids. The fundamental importance of mechanical principles in all fields of physics is emphasized.

730: **Atomic Physics.** 0-3-3. Pre'q., Physics 631. A survey of the developments in contemporary theories of atoms, molecules, matter, and radiation.

731: **Nuclear Physics.** 0-3-3. Pre'q., Physics 730. Natural and artificial radioactivity, methods used for the detection of nuclear particles, nuclear fission, nuclear fusion, and the utilization of nuclear energy.

*Graduate credit only:*

811: **Electromagnetic Theory.** 0-3-3. Pre'q., Physics 703. A complete treatment of the theory underlying electrostatics and electromagnetics, followed by a discussion ot new developments in electromagnetic theory since 1933.

812: **X-Rays.** 3-3-4. Pre'q., Physics 604 and Physics 730. A general treatment of the theory of x-rays with special emphasis on x-ray crystallography.

821: **Theoretical Mechanics.** 0-3-3. Pre'q., Physics 720, and Mathematics 707. A study of oscillations, wave motion, elasticity, and hydrodynamics through the application of partial differential equations, Fourier series, potential theory, and differential vector and tensor operations.

822: **Quantum Mechanics.** 0-3-3. Pre'q., Physics 731, Physics 821, and Mathematics 802. An outline of the principles of wave mechanics and quantum mechanics, followed by their application to problems in atomic and nuclear theory.

831: **Theories of Physics.** 0-3-3. Pre'q., Physics 731 and Mathematics 707. Selected topics. Contemporary theories dealing with recent trends in physics.

832: **Theories of Physics.** 0-3-3. Pre'q., Physics 831. A continuation of Physics 831.

851: **Thesis Research.** 0-3-3. Pre'q., graduate standing. Independent research on a thesis problem assigned by the major professor and approved by the department head.

852: **Thesis Research.** 0-3-3. Pre'q., Physics 851. A continuation of Physics 851.

# Department of Social Sciences

GARNIE W. McGINTY, PROFESSOR AND HEAD OF THE DEPARTMENT

GEOGRAPHY: PROFESSOR ROBERT O. TROUT; INSTRUCTOR PHILIP SHEA

HISTORY: PROFESSORS GARNIE W. McGINTY, ROBERT W. MONDY, JOHN D. WINTERS; ASSOCIATE PROFESSORS WILLIAM Y. THOMPSON, PHILLIP A. WALKER; ASSISTANT PROFESSOR HARRY R. MAHOOD, EDWARD H. MOSELEY

POLITICAL SCIENCE: PROFESSOR LORIMER E. STOREY; ASSISTANT PROFESSORS HARRY R. MAHOOD, ELLIS SANDOZ

SOCIOLOGY: PROFESSOR ROBERT O. TROUT; ASSISTANT PROFESSOR E. P. AXTEN

PHILOSOPHY: ASSISTANT PROFESSOR ELLIS SANDOZ

## REQUIREMENTS FOR A MAJOR IN SOCIAL SCIENCE

Students intending to major in Social Science are required to consult the Head of the Department of Social Sciences during the second semester of their sophomore year in college (and from time to time later, as may be necessary), for direction as to their major and minor courses of study during their junior and senior years. Thirty semester hours in one of the subjects given in the department constitute a major. See the curricula for details.

## RECOMMENDATIONS AND SUGGESTIONS

Students expecting to do graduate work should choose French as their foreign language. Students who expect to enter business will probably choose Spanish.

## RECOMMENDATIONS FOR A MINOR IN THE DEPARTMENT OF SOCIAL SCIENCES

(For students in other departments)

GEOGRAPHY: Any seven courses in Geography constitute a minor.

HISTORY: History 401, 402, and 501, 502, plus nine hours of advanced history taken during the junior and senior years constitute a minor in history.

POLITICAL SCIENCE: Any seven courses in Political Science constitute a minor.

SOCIOLOGY: Any seven courses in Sociology constitute a minor.

## DESCRIPTION OF SOCIAL SCIENCE COURSES

*Undergraduate credit only:*

### GEOGRAPHY

**503: Introductory Geography.** 0-3-3*. Pre'q., sophomore standing. Principles and essentials of geography with emphasis on physical elements.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

525: **World Geography.** 0-3-3. Pre'q., sophomore standing. Geography of Anglo-America, Latin America, Australia, New Zealand, and the islands of the Pacific from the standpoint of cultural regions; emphasis on distribution of people and development of civilization.

526: **World Geography.** 0-3-3. Continuation of Geography 525; regional geography of Europe, Asia, and Africa.

560: **Conservation of Natural Resources.** 0-3-3. A study of the conservation of soils, minerals, forests, water, wildlife, human resources, etc.

635: **Commercial and Industrial Geography.** 0-3-3. A study of geographic factors influencing commerce and industry; the products of agriculture, forests, fisheries, minerals, and manufacturing; the transport routes and centers of production and trade.

670: **Geography of the Polar Regions.** 0-3-3. Climate, ice conditions, island, and the tundra with special emphasis on the strategic importance, civil and military, of the high latitude regions.

675: **Climatology.** 0-3-3, Pre'q., Geography 503, 525, 526. A survey of the climatic regions of the world and the controlling factors of weather.

680: **Cartography.** 0-3-3. Elements of map interpretation and construction; interpretation, use, and construction of graphs.

HISTORY

401: **History of the Western World to 1500.** 0-3-3. After a glance at the life of pre-civilized man, an introductory study is made of the rise of Western civilization in the Ancient Near East and of its development in the Mediterranean region and in Medieval Europe.

402: **History of the Western World Since 1500.** 0-3-3. An attempt is made to trace the rise of mechanized industry, the growth of contemporary nationalism, the development and significance of modern imperialism, the extension of popular government, the progress of social reform, the birth of present-day thought and culture, and emergence of existing international problems.

501: **History of the United States, 1492-1865.** 0-3-3. A general survey course which emphasizes the social and political life of the later colonial period, the rise of the independence movement, the separation from England, the Confederation period, the establishment of the Federal government, the growth of democracy and the slavery question to 1865.

502: **History of the United States, 1865 to the Present.** 0-3-3. A study of the new nation that has emerged since the new industry, the settlement of the West, the growth of empire, the position of the United States in the world today with social and political problems involved.

607: **Economic History of the United States.** 0-3-3. A study of the economic forces and institutions in American life from colonial times to the present. Account is taken of the growth of population, commerce, manufacturers, tariff, finance, transportation, and communication.

653: **Teaching the Social Sciences (Ed. 653).** 0-3-3. An examination of the history, character and purpose of the social sciences is followed by the presentation of appropriate teaching suggestions.

POLITICAL SCIENCE

501: **National Government in the United States.** 0-3-3. The historical development and organization of the national government; governmental problems connected with the federal system; national constitution; civil and political rights; the party system; nature, structure,

powers, and procedure of the legislative, executive, and judicial departments of the national government.

SOCIOLOGY

501: **Principles and Elements of Sociology.** 0-3-3. This course is designed to aid students in observing social phenomena and in recording their observation; also, to guide them in reading and interpreting the literature of the subject.

502: **Social Problems.** 0-3-3. In this course a study is made of the defective, dependent, and delinquent classes of society; of the conditions and factors contributing to the production and existence of these classes; and of the best methods of treating and caring for them.

505: **Introduction to Anthropology.** 0-3-3. The origin of man and prehistory of mankind: the modern races; the nature and development of culture.

600: **An Introduction to Social Welfare Work.** 0-3-3. This course is designed to acquaint the student with the field of social work relative to its history, general function, and status in present-day society.

604: **Social Psychology.** 0-3-3. Pre'q., Psychology 501 or Psychology 502, and Sociology 501. (Same as Psychology 604). A study of the nature of social behavior, social stimulation and response; a psychological analysis of society and social institutions.

GENERAL STUDIES

601: **Americanism vs. Communism.** 0-1-1. Comparative economic and political systems of the U.S.A. and the U.S.S.R.

*Undergraduate and graduate credit:*

GEOGRAPHY

**600: The Eastern United States.** 0-3-3. By permission of the instructor. This course will include a 21-day field study involving approximately 5,000 miles of travel and observation of the United States east of the Mississippi River and a certain amount of required reading. An instructor will lecture daily on the geography of the region. The course aims to recapture, for the student's understanding, the environment in which the men and women of the eastern United States live. (It is planned to offer the course during the summer of odd years.)

**601: The Western United States.** 0-3-3. By permission of the instructor. This course treats the region west of the Mississippi River similar in a manner to that of Geography 600 for the United States east of the Mississippi. It includes a 21-day field trip, lectures and required reading. (It is planned for the summer of even years.)

**605: Geography of Anglo-America.** 0-3-3. A study of the natural environment, resources, and cultural patterns of the major geographic regions of the United States, Alaska, and Canada.

**610: Geography of Louisiana.** 0-3-3. The climate, natural regions, and resources of Louisiana; cultural development; sources and distribution of the population; settlements and agriculture. Open only to junior, senior, and graduate students.

**615: Geography of Latin American.** 0-3-3. A regional study of the configuration, climate, natural resources, cultural patterns, and peoples of the countries of Latin America.

**620: Geography of Asia.** 0-3-3. A regional study of Asia emphasizing the surface features, climate, resources, people, and cultural patterns.

**624: Geography of Africa.** 0-3-3. Description and delimitation of major national regions; surface features, climate, resources, peoples, dominant native cultures, and European influences.

**630: Geography of Australasia.** 0-3-3. A study of the climate, vegetations, soils, and economic activities of the realm of Australasia, (Australia, New Zealand, and neighboring islands of the South Pacific.)

**660: Geography of Europe.** 0-3-3. A study of the major natural and cultural regions; analysis and characterization of present political units; continental and world relations of major countries.

**665: Geography of the Soviet Union.** 0-3-3. A study of the natural environment of the Soviet Union and the regional distribution of the basic resources and economic activities.

HISTORY

**600: The Eastern United States.** 0-3-3. By permission of the instructor. The course will include a 21-day field study involving approximately 5,000 miles of travel and observation of the United States east of the Mississippi River and a certain amount of required reading. An instructor will lecture daily on the history of the region. The course aims to recapture, for the student's understanding, the lives of the men and women of the eastern United States in the exact geographical setting. (The plan is to offer this during the summer of odd years.)

**601: The Western United States.** 0-3-3. By permission of the instructor. This course is a parallel to History 600. It includes a 21-day field study of the region west of the Mississippi River, lectures, and a certain amount of required reading. The course aims to recapture, for the student's understanding, the conquest of the Great West and its transformation to the present. (It is planned for the summer of even years.)

609: **Economic Europe in the Machine Age.** 0-3-3. The central theme is the impact of the machine upon European economic life in the nineteenth and twentieth centuries.

619: **The French Revolution and Its Aftermath.** 0-3-3. Pre'q., junior standing. A study of the French Revolution as a major landmark in the course of Western Civilization and a survey of the principal political developments in European national and international life down to 1870. Special attention will be given to the forces of nationalism and liberalism in nineteenth century Europe.

620: **History of Europe from 1870 to 1919.** 0-3-3. Pre'q., History 402 or equivalent. In addition to a study of the principal political developments in Europe from 1870-1919 considerable time will be devoted to the economic and cultural developments of the nineteenth century. Special attention will be given to the course of international relations before and during World War I.

621: **Europe Since 1919.** 0-3-3. Pre'q., History 402 or the equivalent. A study of the problems arising out of the Versailles Peace Settlement, Fascism, Nazism, Communism, the coming of World War II, the war and its aftermath of cold war.

630: **The Intellectual and Cultural History of the Western World from the Hellenic Era to the End of the Middle Ages.** 0-3-3. A survey is undertaken of the broad lines of development in the philosophical, religious, and scientific thought and in the literary and artistic achievement of the Greeks, the Romans, and the Europeans of the Earlier and Later Middle Ages. An endeavor is made to relate the various lines of development to each other and to society as a whole.

631: **The Intellectual and Cultural History of the Western World in Modern Times.** 0-3-3. The course surveys the major trends in the science, philosophy, religious thought, social science, literature, and art of modern Westerners. The interdependence of the various trends is disclosed as well as their common relationship to the state of society.

640: **History of Latin America.** 0-3-3. A study of the Latin American peoples designed to survey their political and socio-economic development from the colonial period to the present. Special emphasis will be given to inter-American relations.

650: **The American Frontier.** 0-3-3. This course deals with life on the American frontier. It traces the movement of the frontier from the settlement of Jamestown to its disappearance in 1890. Emphasis is placed on the social and economic conditions and the frontier's influence on the older sections of the United States.

680: **History of England to 1688.** 0-3-3. A study of the development of the English people from the earliest times to the accession of William and Mary.

681: **History of England since 1688.** 0-3-3. A study of English political, social, and economic institutions and policies in the eighteenth, nineteenth, and twentieth centuries.

700: **Diplomatic History of the United States to 1898.** 0-3-3. Beginning with the colonial foundations of American diplomacy, this course surveys the foreign relations of the United States from the establishment of independence to emergence as a world power. It includes such topics as the machinery of diplomacy, the efforts of the young republic to maintain its sovereign status and its rights as a neutral, the Monroe Doctrine, territorial expansion, and the diplomatic problems pertaining to slavery and secession.

701: **American Diplomacy Since 1898.** 0-3-3. This course emphasizes the development of the Isthmian-Caribbean policy of the United States, the trend of Far Eastern relations centering about the "Open Door," the World War and subsequent European relations of the United

States, and the development of the "Good Neighbor" policy and the solidarity of American states.

**705: Recent History of the Far East and the Pacific Area.** 0-3-3. A study of geographical factors, the political organization and social institutions of China and Japan at the time of the foreign impact, foreign aggression and international rivalries in China, the establishment and maintenance of the "Open Door", the rise of modern Japan, the "New Order" in eastern Asia, and the war in the Pacific Area.

**710: History of Modern Russia.** 0-3-3. A study of Russian life, political developments, social changes, and geographical factors under the Romanovs and Soviets. Special emphasis will be given to Russia since 1918.

**750: History of South.** 0-3-3. A study of the growth and development of the South. Such factors as soil, climate, natural resources, and population will be noted and the influence they have had in molding the peculiar way of life found in the South.

**760: History of Louisiana.** 0-3-3. A study of French and Spanish explorations, establishment and growth of the French colony, the Spanish period, the Louisiana Purchase and the American Period; a study of local conditions and federal relations.

**765: Recent American History.** 0-3-3. This course is an intensive study of twentieth century development. It emphasizes the New Imperialism from 1898 and traces the development through the New Deal and World War II to the present.

## PHILOSOPHY

**601: Introduction to Philosophy.** 0-3-3. Pre'q., junior standing. An introduction to the nature, scope, method, and principal problems of philosophy through close reading of classic works of philosophy in their entirety. The course is so conducted as to allow a maximum of informal class discussion; a research paper will be done by each participating student.

**605: Ethics.** 0-3-3. Pre'q., Philosophy 601, or consent of the instructor. An inquiry into the nature of the good and of right conduct as the central problems of ethics, together with an analysis of evil and the structure of corruption, both private and public. The thought of major moral philosophers will be explored, and the class will give a close reading to at least one of the classics in the field of ethics. A research paper will be required of each participating student; informal discussion of ethical problems as these emerge will be emphasized.

**Pol. Sci 625-626: Political Philosophy, European and American.** 0-3-3 ea. semester. See Political Science 625-626 for description of this course.

## POLITICAL SCIENCE

**602: Comparative Foreign Governments.** 0-3-3. Pre'q., Political Science 501 or consent of the instructor. A study of the governments of the major foreign powers; an introduction to Marxism and the problems of commupolitical theory, practices, and institutions with the free governments of the West. Government in the Soviet Union, China, Great Britain Germany, and France will be analyzed.

**603: State Government and Adminstration in the United States.** 0-3-3. National-state relation; development of principles and forms of state government; state constitution; constitutional conventions; judicial administration; the legislature; principles of public adminstration; the governor, administrative organization and reorganization; financial control; personnel administration; legislative and judicial control of administration.

**604: The Government of Louisiana.** 0-3-3. A study of the municipal, parish, and state governments of Louisiana. Constitutional develop-

ment in the State will be traced. The governmental structure and administrative organization will be examined. The services rendered to the citizenry will be emphasized.

**610: Governmental Regulation of Business.** 0-3-3. Legislative policies and constitutional problems together with administrative regulations and governmental operation, relation of government to liberty; property, welfare; development of American policy toward business and labor; judicial attitudes toward legislation under the commerce clause, the taxing power, the police power, the "due process" clause of the Constitution; problems in policy and constitutional interpretation; methods and scope of administrative regulation; problems in administrative regulation; comparison between regulation and governmental operation; problems in governmental operation; and governmental promotion and ownership of business.

**612: Public Administration.** 0-3-3. Administrative problems and organization; financial administration; national-state and national-municipal cooperation, practices in organization for personnel administration: recruitment, classification, training, tenure, promotion, removal, political neutrality, and retirement; organization of public employees; development of administrative law; powers and procedure of administrative agencies; law of public liability; rights of public servants.

**614: American Municipal Government and Administration.** 0-3-3. The formation and development of governmental theory, structure, and functions in American municipalities; movement toward urbanization; position of the city; powers; liability; charter; electorate and party system; types of organization; program of reform; nature of administration; personnel management; revenues and expenditures; purchasing; planning and zoning; public services; state and local problems; special reference to Louisiana cities.

**618: American Political Parties.** 0-3-3. Political parties as an essential factor in democratic government; the nature of politics; the contenders for power: sectionalism, agrarianism, labor and the state, business and politics, the role and technique of pressure groups and the lobby; the nature and functions of political parties; party organization; the party machine as an interest group; the rise of minor parties and the nominating process; national conventions; party finance; the party and the government; the electorate; campaign techniques; electoral behavior; straw polls; the role of force; pecuniary sanctions; education and politics; and the expression of public opinion.

**620: Legislation in the United States: Federal and State.** 0-3-3. Legislation as a process and a product; the origin and development of representative government; the functions of legislatures; the structure of legislatures; minority and proportional representation; functional representation; pressure groups and lobbies; legislative sessions and membership; organization, leadership, and procedure of American legislatures; the committee and party control; expert aid in legislatures; some technical problems of law-making; judicial, administrative, and popular law-making.

**625-626: Political Philosophy, European and American.** 0-3-3 ea. semester. Pre'q., at least one previous course in political science or philosophy and junior class standing, or consent of the instructor. A study of political philosophy from its beginnings, in Ancient Greece, to the present which lays particular emphasis upon those ideas which have most influenced American theory. The historically established principles of the science of politics then are applied to analysis of the nature of modernity which lays bare the sources of contemporary political disorder and the "crisis" in Western Civilization. A close reading of classic works of political philosophy will be done in conjunction with the lecture exposition.

650: **International Politics.** 0-3-3. Pre'q., at least one previous course in political science, or consent of the instructor. A study of the principles and structure of contemporary international relations with emphasis on the East-West struggle, the "Cold War," the ideological conflict, the role of the uncommitted nations, and the unprecedented new factors which today are determining the course of affairs among nations.

720: **Contemporary Problems in Government.** 0-3-3. Pre'q., at least one of the following courses: Political Science 501, or 603, or 604, and approval of the instructor and the head of the department. This course is intended to afford the advanced student the opportunity to do specialized work under the direction of an instructor. Problems will be selected in conference with the instructor and subject to the student presenting satisfactory evidence that he has the necessary background for the problems agreed upon.

730: **American Constitutional System.** 0-3-3. Pre'q., Political Science 501. The development of the American constitutional system will be traced with emphasis on judicial interpretation of the Constitution. Major decisions of the Supreme Court will be read and analyzed.

SOCIOLOGY

608: **The Family.** 0-3-3. A study is made of the various forms of family life that have been erected upon the biological foundation. Modern phases of the problem of the adaptation of the family to the varied conditions of urban and rural environments.

612: **Racial Minority Groups.** 0-3-3. A study of the ethnological, physiological, and cultural differences; of the concepts, isolation, assimilation, amalgamation, nationality, race pride and race prejudice.

614: **Criminology.** 0-3-3. Pre'q., Sociology 501. An analysis of the nature and causative factors leading to crime, a history of its treatment, and a comparative study of present methods of dealing with the criminal.

615: **Sociology of Industrial Relations.** 0-3-3. Pre'q., junior standing. This course deals with the sociological analysis of industry. It emphasizes human relations and the impact of industry on the family, the community, and society.

618: **Social Control.** 0-3-3. Pre'q., Sociology 501. An examination of the stabilizing influence of institutions and a study of the agencies striving to secure uniformity in the behavioral pattern. Emphasis is placed on the techniques by which group leadership seeks to bring about sufficiently uniform response in members so as to make the groups functionally effective.

630: **Rural Sociology.** 0-3-3. An introduction to the study of rural society, its people, structure, and institutions. Emphasis is placed on the origin and composition of the population, social organization, and social processes.

640: **Urban Sociology.** 0-3-3. An introduction to the sociology of the city. Attention is given to economic, physical, and cultural factors, and to the influence of increased industrialization. Complexity of modern urban life and resulting social problems are considered.

650: **Influence of Education on Society.** 0-3-3. A study of group life from the point of view of education; emphasis on the education derived or expected from the schools for efficient living in groups.

660: **Population Problems.** 0-3-3. A study of population distribution, composition, growth, migration, and vital processes.

*Graduate credit only:**

GEOGRAPHY

**801: Physical and Cultural Elements of Geography.** 0-3-3. A study of the national elements in the human habitat and the cultural features which result from man's presence.

HISTORY

**800: American Historiography.** 0-3-3. A careful study will be made of the leading historians and their contributions to the field of history.

**820: Colonial America.** 0-3-3. An intensive study of life in the Anglo-American Colonies, 1492-1783.

**821: The Federal Period, 1783-1825.** 0-3-3. A study of the formative years of the United States from the Confederation period to the rise of the common man.

**822: The Middle Period, 1825-1860.** 0-3-3. A study of the growth and development of the United States from Jacksonian democracy through the rise of sectional conflicts.

**823: The Civil War and Reconstruction.** 0-3-3. An intensive study of the causes and results of Civil War and Reconstruction.

**824: Origin of the New Nation, 1876-1900.** 0-3-3. A study of the new American nation from the end of Reconstruction to its emergence as a world power.

**851: Introduction to Thesis Writing and Research.** 0-3-3. A study of the techniques of research and historical composition.

**852: Thesis Writing.** 0-3-3. Credit to be given on completion of the master's thesis.

**860: Recent European History.** 0-3-3. An intensive study of a restricted subject in recent history (to be designated by the instructor), with an investigation of available historical sources and an introduction to scholarly research in this field.

SOCIOLOGY

**801: Social Organization.** 0-3-3. A study of the structure and function of social groups and institutions.

**820: Social Problems.** 0-3-3. Seminar in social problems.

*Graduate credit toward the degree of Master of Arts in Education

# Department of Speech

PAUL J. PENNINGTON, PROFESSOR AND HEAD OF THE DEPARTMENT
ASSOCIATE PROFESSORS ARTHUR W. STONE, WILMA E. BAUGH; ASSISTANT PROFESSORS EDWARD LUCK, LOUISE L. BROOKS

## REQUIREMENTS FOR A MAJOR IN SPEECH

A *major in Speech* consists of thirty-three hours, which must include Speech 410, 511, 622, 723, and four of the following speech courses: 615, 640, 706, 610 and either 753 or 500, plus nine additional hours of Speech.

## REQUIREMENTS FOR A MINOR IN SPEECH

Minor in Speech: Speech 410, 511, 622, and three of the following courses: 615, 640, 706, 610, and either 753 or 500; plus three additional hours of Speech.

## FACILITIES FOR TELEVISION AND RADIO WORK

The Department of Speech produces regularly scheduled television programs over KNOE-TV in Monroe, La., and each week by arrangement with television station KLSE operated by the State Department of Education, the Speech Department provides actual production experience for the student in all phases of television broadcasting such as program direction, TV camera operation, film projection, announcing, etc. The Department has well-equipped radio studios and suitable facilities for broadcasting in cooperation with several radio stations in nearby cities. Station KRUS in Ruston makes regular broadcasts of Speech Department programs and affords the students ample opportunity for practical experience in the various kinds of radio work.

## SPEECH CORRECTION CLINIC

The Department maintains a Speech Correction Clinic in which selected speech handicapped children are given remedial training. Students following the Speech and Hearing Therapy Curriculum must receive a part of their training in the Speech Clinic, where they are supervised in the application of diagnostic and therapeutic procedures and techniques.

## DESCRIPTION OF SPEECH COURSES

**410: Principles of Speech.** 0-3-3*. A basic course in which students through performance learn their shortcomings in speech and acquire standards for evaluation of the speech practices in others.

**500: Discussion and Debate.** (Formerly Speech 750) 0-3-3. Pre'q., Speech 410 or equivalent. A study of the priciples of group discussion and debate with practical experience in each

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

511: **Advanced Speech Techniques.** 0-3-3. Pre'q., Speech 410. Purpose: To strengthen the speech patterns built up in the previous course. Abundant opportunity given for students to participate in group discussions, to give talks before the group, and to read orally.

610: **Speech Correction.** 0-3-3. Pre'q., Speech 410 or permission of instructor. A survey study of the nature and causes of familiar speech disorders, designed to meet the needs of teachers in elementary and secondary schools and of speech majors.

611: **Speech Behavior in Human Relations.** 0-3-3. The method of science applied to a study of the basic nature of speech as a psychological phenomenon; principles of field theory applied to interpersonal theory of human behavior.

615: **Oral Interpretation of Literature.** 0-3-3. Pre'q., Speech 410. Advised, Speech 511. The development of mental and emotional responsiveness to poetry, prose, and drama, and the ability to communicate them to others.

616: **Oral Interpretation of Literature.** 0-3-3. (A continuation of Speech 615) Pre'q., Speech 410, 615. Advanced study in oral interpretation including program presentation.

619: **Choral Speaking.** 0-1-1. Group participation in the interpretation of literature.

620: **Interpretation of Children's Literature.** 0-3-3. Pre'q., Speech 410. Arranged for grade teachers. Study of technique and practice in story telling, in oral reading of both prose and poetry, and in group reading.

622: **Phonetics.** 0-3-3. A study of the vocal and physical aspects of standard American language and deviations therefrom as found in various regional dialects of the United States.

625: **Audiology.** 0-3-3. A study of the auditory mechanism, various types of hearing deficiencies, and the basic techniques of audiometric testing, including practice in the most commonly used tests.

626: **Hearing Conservation.** 0-3-3. Pre'q., Speech 625. Communication of the deaf and the hard of hearing and major therapeutic techniques, including hearing aids, speech reading, and auditory training.

630: **Speech for Elementary Teachers.** 0-3-3. Pre'q., Speech 410. A course designed to meet the practical needs of the elementary school teacher including training in phonetics, pronunciation, drill with tape recorder, practice in reading to children, and the forms of public address.

640: **Introduction to Broadcasting.** 2-2-3. Registration by permission of instructor. A consideration of the fundamentals of broadcasting, including both radio and television. Includes field trips to observe nearby radio and television station operations.

651: **Advanced Radio Techniques.** 0-3-3. Pre'q., Speech 640 or equivalent experience. Continuation of Speech 640 with additional emphasis on script writing and production techniques.

652 A, 652 B: **Radio Production and Performance.** Registration by permission of instructor. (A) One hour credit—two laboratory hours per week. (B) Two hours credit—four laboratory hours per week. A continuation of Speech 652.

661: **Television Techniques.** 2-2-3. TV writing, production, and performance; design, lighting and staging; and a consideration of the problems of programming, sales and advertising in the medium.

662 A, 662 B: **Television Production and Performance.** Registration by

permission of instructor. (A) One hour credit—two laboratory hours per week. (B) Two hours credit—four laboratory hours per week. A working course with emphasis on practical experience with all phases of telecast operation and production and development of specialized skills and abilities.

663 A, 663 B: **Television Production and Performance.** Registration by permission of instructor. (A) One hour credit—two laboratory hours per week. (B) Two hours credit—four laboratory hours per week.

675,676: **Oral Communication.** 0-2-2 each. A beginning course in the problems of oral communication. Analysis of rhetorical principles of motivation, logic, ethical appeals, speech organization, oral style, and delivery, plus modern application of these classical principles.

700: **Acting.** 0-3-3. Pre'q., Speech 410. To develop techniques for the interpretation of drama through the medium of the actor. Students will both act and direct.

706: **Play Production.** 0-3-3. An introductory course in the problems of play production, including directing, casting, rehearsing, scenery construction and painting, stage lighting, backstage organization, stage make-up and costuming.

707: **Advanced Play Production.** 0-3-3. Pre'q., Speech 706. A continuation of Speech 706. A short play must be presented by each member.

711: **Diagnostic Procedures.** 0-3-3. Pre'q., Speech 610. Procedures and practice in the diagnosis of the more common speech disorders.

712: **Clinical Procedures.** 0-3-3. Pre'q., Speech 610. Supervised practice in Speech and/or Hearing Therapy in the Clinic.

713: **Rehabilitation of the Speech Defective.** 0-3-3. Pre'q., 610 and 622. A study of the types, causes, and therapeutic procedures of speech pathologies with emphasis on articulatory and voice problems, stuttering, and speech defects associated with cleft palate.

723: **English Words and Idioms.** 0-3-3. Pre'q., Junior standing. Rhetoric and logic as applied to critical thinking and creative expression. A study of semantics; exercises in propaganda analysis; vocabulary building.

751: **Advanced Discussion and Debate.** 0-3-3. Pre'q., Speech 500 or equivalent. A course designed to prepare students for organizing and conducting a forensics program.

753: **Public Address.** 0-3-3. Pre'q., Speech 410. Modern speech composition and presentation taught in relation to oratory of the past and present.

754: **American Public Address.** 0-3-3. Pre'q., Speech 410. A study of American oratory from Colonial times to the present.

760, 761, 762, 763: **Applied Forensics.** 2-0-1. Practical experience in debate and other forms of forensic speaking.

# Department of Zoology

ROLAND ABEGG, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSORS F. L. AFEMAN, S. M. WEATHERSBY; ASSOCIATE PROFESSORS WALTER HARMAN, S. S. KILGORE, HERBERT E. SHADOWEN

## REQUIREMENTS FOR A MAJOR IN ZOOLOGY

Students intending to major in Zoology are required to follow the Zoology curriculum. During the second semester of their sophomore year (and later as may be necessary) they are required to consult the Head of the Department for direction as to their major and minor courses of study during their junior and senior years.

*Major:* A minimum of thirty semester hours (18 of which must be advanced courses) is required for a major in Zoology. Courses which have been taken during the freshman and sophomore years will count in fulfillment of this requirement. Zoology 401 and 402 are required and enough additional courses are to be chosen from those numbered in the 500, 600, and 700 groups. The following Medical Technology courses may apply on a major: 542 (Histology), 544 (Parisitology), 641 (Hematology), and 748 (Serology). Students deciding to major in Zoology after having taken Zoology 400 may do so provided they take Zoology 501, 502.

*Minor:* Students majoring in Zoology are also required to choose a minor (of at least twelve hours of advanced courses) in a related field and schedule the courses necessary to satisfy the requirements of the department in which the minor is chosen.

## REQUIREMENTS FOR A MINOR IN ZOOLOGY

(For students in other departments)

Students electing Zoology as a minor are required to follow the same requirements as for the major; except a minimum of twenty-one hours is required instead of thirty.

Those students who desire to qualify for positions as laboratory technicians may do so by following the curriculum for medical laboratory technicians.

## DESCRIPTION OF ZOOLOGY COURSES

*Undergraduate credit only:*

**400: Introductory Zoology.** 3-3-4.* A brief survey of animal biology.

**401, 402: General Zoology.** 3-3-4 each. Designed to give an extensive survey of the facts and principles of animal biology.

**501: Invertebrate Zoology.** 6-2-4. Pre'q., Zoology 400 or 401, 402. Structure, life cycles, ecology, and taxonomy of the invertebrates.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

**502: Vertebrate Zoology.** 6-2-4. Pre'q., Zoology 401, 402, or 400. Comparative anatomy and evolution of the vertebrates.

**511: General and Economic Entomology.** 3-2-3. Insect structure, principles of classification, special study of insect pests of farm, home, and orchard, etc., their life cycles and controls.

**512: Forest Entomology.** 3-2-3. Insect structure, classification, etc., leading into a special study of those insects of economic significance to the forester.

**517: Principles of Wild Life Management.** 0-2-2. (Formerly Zoo. 617.) Pre'q., Zoology 400 or 401. An introduction to game management, the history of its development, and a general survey of management techniques and problems.

**520: Personal and Community Hygiene and Sanitation.** 0-3-3. (Formerly Zoo. 620) Pre'q., one semester of general Zoology recommended. A study is made of personal hygiene and community healthful living with just enough emphasis upon structure of organs and organ systems to make clear their hygiene and its importance in preventing and controlling our most common diseases.

**525: Human Anatomy and Physiology.** 0-3-3. (Formerly Zoo 625) Pre'q., Zoology 401, 402, or 400. The structures and functions of the principal organs and organ systems of the human body. Not open to students who have taken Zoo. 720.

**615: Animal Ecology.** 3-2-3. Pre'q., Zoology 400, or 401, 402. The fundamental principles of ecology as they apply to numbers of animals, animal communities and their distribution.

**618: Management of Upland Game.** 3-2-3. Pre'q., Zoology 517. The life histories, distribution, and management of our common game animals.

**619: Management of Waterfowl, Marsh Animals, and Fish.** 3-2-3. Pre'q., Zoology 517. The life histories, distribution, and management of our aquatic animals.

**650: Zoological Problems.** 3-0-1; 6-0-2; 9-0-3. (Formerly Zoo. 550) Pre'q., junior standing. This course is designed to give the students experience in elementary research.

*Undergraduate and graduate credit:*

**701: General Parasitology.** 6-1-3. Pre'q., Zoology 401, 402 or equivalent. A survey of parasitic animals, life cycles and morphology.

**705: Histology.** 6-1-3. Pre'q., Zoology 401, 402, or equivalent. Slide preparation and microscopic studies of animal tissues.

**710: Genetics and Eugenics.** 0-3-3. (Formerly Zoo. 610) Pre'q., Zoology 401, 402, or 400. The fundamental laws of inheritance, their application to plant and animal breeding, and to man.

**711: Vertebrate Embryology.** 6-2-4. (Formerly Zoo. 611) Pre'q., Zoology 401, 402, or 400. The structure, maturation and fertilization of the germ cells, and early development of vertebrate animals.

**715: Medical Entomology.** 0-3-3. (Formerly Zoo. 515) Pre'q., one semester beginning Zoology recommended. Insects and other Arthropods that are pests directly and of importance as carriers of diseases of man.

**720: General Physiology.** 3-3-4. (Formerly Zoo. 510) Pre'q., Zoology 401, 402, or 400, and Chemistry 401, 402 (407, 408). A study of the fundamental processes involved in the functioning of cells, tissues, organs, and organ systems.

**731: Field Zoology.** 6-1-3. (Formerly Zoo. 580) Pre'q., Zoology 401, 402, or 400. The vertebrate fauna, excluding the birds, of this area. It surveys the ecology, natural history, and taxonomy of the vertebrates.

**732: Mammalogy.** 6-1-3. Pre'q., Zoology 401, 402, or equivalent. Life histories, ecology, and economic importance of mammals, with emphasis upon those in this region.

**733: Ornithology.** 3-2-3. (Formerly Zoo. 630) Identification, life histories, migrations, and relation of birds to crops, insects, other animals, and man.

**734: Limnology.** 6-1-3. Pre'q., Zoology 401, 402 or equivalent. Study of fresh water animals and their environment.

**740: Cytology.** 6-1-3. (Fomerly Zoo 560) Pre'q., Zoology 401, 402, or 400. The cell is studied as to the structural and functional organization of the protoplasm, with relation of this organization to metabolism and heredity.

*Graduate credit only:*

**801: Zoological Literature.** 0-1-1. Pre'q., graduate standing. A study of the history of Zoology, and methods and techniques of making reports and writing papers. One hour per week.

**805-806: Graduate Seminar.** Each 0-1-1. Pre'q., graduate standing. Supervised study, reports and discussion of current literature in the field of Zoology. Required of all graduate students each semester while in residence. Credit will be given for only two hours.

**850: Zoological Topics.** Three hours. Pre'q., graduate standing. Advanced studies in the major fields of Zoology. This subject may be repeated under different topics. Lecture and lab to be arranged under the supervision of the major professor.

**851-852: Thesis.** Six hours. Pre'q., graduate standing. Research and writing of thesis.

MEDICAL TECHNOLOGY COURSES

Students who complete this curriculum will receive the degree of Bachelor of Science in Medical Technology. Those who complete the required internship may, upon taking and passing an examination given by the American Society of Clinical Pathologists, receive the rating M.T. (A.S.C.P.).

Louisiana Tech is recognized by the American Medical Technologists. Students on receiving a degree may take and upon passing the A.M.T. examination receive the rating M.T. (A.M.T.).

*The only one of the following courses carrying graduate credit is Zoo. 748: Serology.*

**540: Clinical Pathology.** 6-1-3. (Formerly Zoo. 640) Pre'q., Zoology 401, 402. A study of qualitative laboratory methods for demonstrating the physiological state of the body fluids.

**542: Histological Sectioning** .6-0-2. (Formerly Zoo. 644) Pre'q., Zoology 401, 402. Methods of preparing histological sections.

**544: Clinical Parasitology.** 6-1-3. (Formerly Zoo. 642) Pre'q., Zoology 401, 402. A study of protozoan, platyhelminth and nemathelminth parasites of man.

**641: Hematology.** 6-2-4. Pre'q., Zoology 401, 402. Quantitative and qualitative methods for determining the normal or abnormal condition of cellular blood.

**643: Clinical Microbiology.** 6-2-4. Pre'q., Zoology 401, 402. A study of the medically important micro-organisms and methods for their isolation and identification.

**646: Medical X-Ray Technology.** 3-1-2. Pre'q., Zoology 401, 402. Methods of obtaining routine radiographs, stressing proper positions and dark room techniques.

**747: Clinical Chemistry.** 6-1-3. (Formerly Zoo. 547) Pre'q., Zoology 401, 402; Chemistry 407, 408. Quantitative, Photoelectric, Gasometric and Spectrographic methods for demonstrating the physiological state of the body.

**748: Serology.** 6-1-3. (Formerly Zoo. 548) Pre'q., Zoology 401, 402. A study of the body defenses against viral, bacterial diseases, and serodiagnostic procedures based in the antigen antibody reaction.

**750: Medical Laboratory Practice.** (Former Zoo. 645) Pre'q., permission of Instructor.
A. 3-0-1
B. 6-0-2
C. 9-0-3
D. 12-0-4 (maximum credit, 6 hours)
Practical application of laboratory techniques in the student infirmary. A student may earn two semester hours in some other reputable laboratory under proper supervision provided he has registered and obtained the consent of the department head and dean.

**752: Medical Technology Seminar.** (Formerly Zoo. 649) 0-1-1. Pre'q., Permission of Instructor. Medical technology ethics, trends, state requirements, seminars, and new developments in the field.

MARINE ZOOLOGY COURSES

The following courses in zoology will be taught at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi, by the staff of the Gulf Coast Research Laboratory with which Louisiana Polytechnic Institute is affiliated. For information, write to Louisiana Polytechnic Institute.

*Undergraduate and graduate credit:*

**760: Marine Zoology for Teachers.** Four hours. (Formerly Zoo. 600). No pre'q., (Only students registered in the School of Education will be allowed graduate credit for this course). Designed to provide teachers of biological science in elementary and secondary schools with an opportunity to become acquainted with coastal Zoology. Field trips to many animal habitats; trips to shrimping grounds, oyster reefs, and seafood processing plants. Opportunity to make a teaching collection of marine organisms.

**761: Marine Invertebrate Zoology.** Six hours. (Formerly Zoo. 601) Pre'q., 12 semester hours of zoology, including general zoology, and junior standing. A general study of the anatomy, life histories, distributions, and phylogenetic relationships of all marine phyla below the chordates, with special reference to Gulf species.

**762: Marine Vertebrate Zoology.** Six hours. (Formerly Zoo. 602) Pre'q., 12 semester hours of zoology, including Comparative Anatomy, and junior standing. A general study of the marine Chordata, including the lower groups and the mammals and birds; most emphasis will be given to the fishes.

**763: Marine Fisheries.** Four hours. (Formerly Zoo. 708) Pre'q., 12 semester hours in zoology. An introduction to the general principles of the subject, including the simpler statistical procedures, collection of production statistics, and a general review of the world fisheries with special emphasis on those of the United States.

*Graduate credit only:*

**850M: Problems in Zoology.** Four to six hours. Pre'q., consent of instructor. Supervised research on specific problems in marine zoology.

# SCHOOL

# OF

# BUSINESS ADMINISTRATION


BURTON R. RISINGER, *Dean*

VOL. LIX JULY, 1961 NUMBER 3

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# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Wed. May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# OFFICERS OF INSTRUCTION

## HEADS OF DEPARTMENTS

ACCOUNTING: Harold J. Smolinski

BUSINESS: Burton R. Risinger

ECONOMICS: Paul T. Hendershot

OFFICE ADMINISTRATION: Lucille W. Campbell

RESEARCH: Howard L. Balsley

## PROFESSORS

Howard L. Balsley, *Business Statistics*—A.B., M.A., Ph.D., Indiana University. (1954)

Irol Whitmore Balsley, *Office Administration*—A.B., Nebraska State Teachers College; M.S., University of Tennessee; Ed.D., Indiana University. (1954)

Lucille W. Campbell, *Office Administation*—B.S., University of Mississippi; M.A., Columbia University. (1929)

Amos W. Ford, *Business Administration and Economics*—B.S., Baylor University; M.A., University of Chicago. (1929-1949) (1955)

Kenneth R. Grubbs, *Economics and Finance*—B.S., M.S., North Texas State College; Ph.D., University of Texas. (1952)

Paul T. Hendershot, *Economics and Finance*—B.A., Henderson State Teachers College; M.A., Ph.D., Louisiana State University. (1947)

James T. Johnson, *Accounting*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University; C.P.A., Louisiana. (1948)

William S. Knight, *Accounting*—B.S., University of Alabama; M.B.A., University of Denver; C.P.A., Tennessee and Louisiana. (1948)

Wilbur T. Meek, *Economics and Management*—A.B., Princeton University; A.M., Ph.D., Columbia University. (1949)

Burton R. Risinger, *Finance*—B.A., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1945)

PROFESSORS (continued)

William R. Rives, *Accounting*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University; C.P.A., Arkansas. (1952)

Harold J. Smolinski, *Accounting*—B.A., Northwestern State College; M.B.A., Louisiana State University; C.P.A., Louisiana. (1941)

Minnie B. Tracey, *Marketing and Management*—A.B., University of Michigan; M.S.C., University of Denver; Ph.D., Ohio State University. (1951)

ASSOCIATE PROFESSORS

E. Carl Jones, *Economics*—B.S., Southwestern Louisiana Institute; M.S., Louisiana State University. (1947)

Ethel H. Kelly, *Office Administration*—A.B., Northwestern State College; M.B.A., Louisiana State University. (1947)

Kermit Knighton, *Business and Accounting*—B.A., Louisiana Polytechnic Institute; M.E., Stephen F. Austin State College. (1940)

Fairy C. McBride, *Business Administration*—B.A., Louisiana Polytechnic Institute; M.B.A., University of Denver. (1933)

Dwayne L. Oglesby, *Law*—B.A., M.A., LL.B., University of Kansas. (1955)

T. L. Whitesel, *Finance*—B.Ed., Eastern Illinois University; B.S., M.S., Ph.D., University of Illinois. (1958)

ASSISTANT PROFESSORS

James F. Butler, *Business Statistics and Economics*—B.A., Arkansas State Teachers College; M.B.A., University of Arkansas. (1961)

Cliffo D. Crump, *Office Administration*—B.B.A., M.B.E., North Texas State College. (1952)

Russell C. Ferrington, *Accounting*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1953)

Jarrett Hudnall, Jr., *Marketing*—B.B.A., M.B.A., University of Texas. (1961)

Claudine Crawley Kennedy, *Office Administration*—B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University. (1950)

Jack N. Thornhill, *Economics*—A.B., Wittenberg University; M.L., University of Pittsburgh; Ph.D., Louisiana State University. (1960)

STAFF

Anne Sentell Hughes, *Supervisor Secretarial Practice and Research Assistant*—B.S., Louisiana Polytechnic Institute. (1959)

Gloria D. Shelby, *Secretary and Recorder*—B.S., Louisiana Polytechnic Institute; M.B.A., Indiana University. (1958)

# SCHOOL OF BUSINESS ADMINISTRATION

*BURTON R. RISINGER, Dean*

## ACCREDITATION

The School of Business Administration is accredited by full membership in the American Association of Collegiate Schools of Business. The Association standards state that membership in the Association shall constitute accreditation for professional collegiate education for business. Louisiana Polytechnic Institute is accredited by the Southern Association of Colleges and Secondary Schools, and this accreditation covers the School of Business Administration as one of the six schools of the institution. The accreditation of the School of Business Administration covers all of its departments and curricula.

## HISTORY AND PURPOSE

Among the purposes listed in the original act creating the college was to give instruction in business subjects and, indeed, Tech's first graduate, Harry Howard, graduated in 1897 in business and later became head of the department. Business courses were thus an important part of the work of the college from its very inception. The Department of Commerce progressed steadily through the years in all of its branches, and in 1940 the School of Business Administration was created by the Louisiana State Board of Education.

The School is divided into four academic departments: Accounting, Business, Economics, and Office Administration. Its graduates are in great demand and have built for the School of Business Administration an enviable reputation among the commercial and industrial firms of this area.

It is the purpose of the School to offer a high level education encompassing liberal education, broad business education, and specialization in one of several fields. The School seeks to prepare students to enter the business world as staff specialists, trainees or in other work and to give them a foundation for a lifetime of self-education which will ultimately carry some into executive, professional or proprietorship positions.

To be adequately prepared educationally for success in business and for life in this increasingly complex civilization, it is necessary to have a broad general education, especially encompassing English communications, the humanities, and the behavioral and social sciences as well as to have a strong business education. To succeed, it is also necessary to be

properly motivated and to have established habits of industry and perseverance. As already indicated, the education offered by the School of Business Administration is intended to be of the quality required for later success and is set at a pace which requires industry on the part of the students. Those whose diligence and industry carry them to the day of graduation will have an education of which they can be proud and on which they can base a life full of success and happiness.

## DEGREES AND CURRICULA

The degrees offered by the School are Bachelor of Arts in Economics, Bachelor of Science in Business Administration, and Bachelor of Accounting. The curriculum in Economics leads to the Bachelor of Arts degree. The four-year curricula leading to the degree of Bachelor of Science in Business Administration are the Accounting Curriculum, the Secretarial Curriculum, and the Curriculum in Business Administration. In addition to the four-year curricula, there are offered a two-year stenographic program and a fifth-year program of specialization in Accounting which leads to the Bachelor of Accounting degree.

## ADMISSION REQUIREMENTS

The general information catalog publishes the requirements for admission under the title "General Admission Requirements." These requirements apply to the School of Business Administration with respect to admission as freshmen and as special students. A student who meets the general admission requirements as a transfer student from another college or university will be admitted to a curriculum in the School of Business Administration if he is in good standing and has not completed more than a year and a summer of college work or if he has a cumulative C average. If the student has completed a year in college and does not have a C average, he may enroll in the academic curriculum or as a special student in the School of Arts and Sciences while he undertakes to demonstrate his ability to satisfactorily pursue a business program of study. If this objective is met, the student may then transfer into a business curriculum. Students desiring to transfer into the School of Business Administration from other schools within the college must be in good standing and meet the same requirements as students transferring from other institutions.

*Visiting Students*

Students from other colleges or universities who merely desire to attend the summer session may be enrolled as visiting students for the summer term only provided they meet the general college entrance regulations.

## SCHOLARSHIP STANDARDS

Standards have been adopted to insure the continued eligibility to attend Louisiana Tech of only those students whose capability and industry justify it. These standards are given in detail in the General Information Bulletin under the title Probation, subtitle Scholastic Probation and Suspension. Students are required to become acquainted with these standards.

## COUNSELING SYSTEM

A three-phase counseling system has been established for students in the School of Business Administration. Counseling will be done by a member of the faculty to whom a student has been assigned. Certain counseling sessions are required of all students and brief reports on some of these sessions are required to be filed in the office of the department head and of the dean of the school. The counseling system has been planned with the student's interest in mind and the justification for its existence is the desire on the part of the faculty and administration to be of greater help to the students. There will be at least one counseling session for each student during each semester.

The first phase of the counseling system deals with the student's career and field of specialization. Its primary application is to freshmen. The second phase of the counseling system deals primarily with counseling related to the student's progress and problems after he has made his choice of a curriculum. The third phase of the counseling system deals with problems related to a change in the objective of a student.

## GRADUATION REQUIREMENTS

A candidate for a degree offered by the School of Business Administration must meet all of the general graduation requirements and complete one of the curricula in the School (see Graduation Requirements in General Information Bulletin). Specifically, the C-average rule is applied two ways to insure that the quality of the work done by the degree candidate is acceptable.

1. The candidate for a degree must have a C-average in all work for which he has credit earned at Louisiana Tech.
2. The candidate for a degree must have a C-average in

all work for which he has credit whether taken at Louisiana Tech or elsewhere and whether the courses count or do not count toward the degree.

## GRAMMAR AND COMPOSITION REQUIREMENTS

The ability to express and write correctly and effectively is of great importance in the success of men and women in the business world. Surveys among business executives have led to the discovery that they consider the lack of this ability to be one of the greatest shortcomings of their employees.

The importance of English communications is not only recognized as being of prime importance by business executives but is also placed in this position by college graduates after they have been employed for a time. The General Electric Company recently made a survey among their 13,-586 employees who are college graduates to determine what college courses these graduates considered to be of greatest importance in a business career. All non-engineering graduates placed courses in English communications as being of first importance. The engineering graduates placed English courses as being of greater importance than courses in any other field except mathematics. Both groups placed English in first position for those graduates who later enter into management responsiblity.

The faculty of the School of Business Administration feels that it must share a part of the responsibility in the training of students to speak and write correctly. The faculty further feels that the School cannot graduate a student who does not possess this ability to a reasonable degree.

In order to give our graduates a greater facility in communications and a greater chance for success in life, the following courses in communications are required of all students in each of the four-year curricula in the School of Business Administration: two courses in English reading and written communications, two courses in speech oral communications, one course in business communications, two courses in English literature, and one course in English advanced writing.

## AWARDS AND RECOGNITIONS

### CPA AWARD

The Society of Louisiana Certified Public Accountants makes an annual award to the graduating senior in Accounting who has the highest scholastic record for the four years. It consists of a very attractive gold key.

### DELTA SIGMA PI SCHOLARSHIP AWARD

The Delta Sigma Pi Scholarship Award key is awarded annually by the fraternity to the male senior, whether or not a member of the fraternity, who ranks the highest in scholarship in any one of the curricula in the School of Business Administration.

### OUTSTANDING SENIOR

The faculty of the School of Business Administration each year elects from among the seniors a group of students who are designated as outstanding seniors. The selection is made on the basis of scholarship, character, and activities. The pictures and accomplishments of these students are placed in a lighted bulletin board for a year. Also, a brochure is printed giving information about them.

### PHI KAPPA PHI

Students with an outstanding scholastic record are eligible for membership in Phi Kappa Phi, a national general honorary scholastic fraternity.

### OMICRON DELTA KAPPA

Outstanding leadership is recognized by the election to membership in Omicron Delta Kappa, the national leadership fraternity.

## SCHOLARSHIPS

The First National Bank of Shreveport has established several scholarships of $300 per year each for students in the School of Business Administration who are residents of Caddo, Bossier, DeSoto, Red River, Webster, Claiborne, Bienville, Natchitoches, or Sabine Parishes. Selection is made first on the basis of need and then on scholastic record, future promise, character, qualities of leadership, and seriousness of purpose.

Louisiana Polytechnic Institute has established 60 scholarships of $600 per year each for outstanding high school graduates.

## ORGANIZATIONS

### BUSINESS STUDENTS ASSOCIATION

The official student body organization of the School is the Business Students Association. The president of this association is the president of the student body of the School of Business Administration. Dues are fifty cents per semester in the regular session, and this is an official charge recognized by the School.

### DELTA SIGMA PI

Beta Psi chapter of the professional international fra-

ternity of Delta Sigma Pi was chartered on May 15, 1948. Delta Sigma Pi was founded at New York University on November 7, 1907. The purpose of the fraternity is to foster the study of business in colleges and universities, to encourage scholarship and the association of students for their mutual advancement by research and practice, to promote closer affiliation between the commercial world and students of business, to further a high standard of business ethics and culture, and to promote the civic and commerical welfare of the community.

SOCIETY FOR THE ADVANCEMENT OF MANAGEMENT

The local chapter of the Society for the Advancement of Management received its charter on January 24, 1948. The purpose of this society is to inspire students in business administration and to promote contacts among men in the business world. Leading businessmen are obtained to speak at the regular meetings of the Society. The Society makes field trips to selected business and industrial firms of the area where valuable contacts are made as well as information obtained first-hand about the organization and operation of the firms visited.

BETA ALPHA PSI FRATERNITY

Alpha Chi Chapter of the national fraternity of Beta Alpha Psi was established here in May, 1956. Beta Alpha Psi is a national professional and honorary fraternity, the purpose of which is to encourage and foster the ideal of service as the basis of the accounting profession; to promote the study of accountancy and its highest ethical standards; to act as a medium between professional men, instructors, students, and others who are interested in the development of the study or profession of accountancy; to develop high moral, scholastic, and professional attainments in its members; and to encourage cordial intercourse among its members and the profession generally.

ACCOUNTING CLUB

The Accounting Club was organized in December, 1953, as a professional organization for the purpose of encouraging higher standards of scholarship and developing a closer relationship between the accounting students, faculty, and businessmen. The group meets twice a month with one meeting being devoted to the business affairs of the club and the other meeting being devoted to professional development.

MARKETING CLUB

The Louisiana Tech Marketing Club was organized in 1956 and is affiliated with the American Marketing Associa-

tion. Membership is open to any college student interested in marketing. The club encourages scientific study and research in the field of marketing, and its programs are devoted to the study and discussion of current developments in this field. Outstanding people in the field of marketing are frequent guest speakers at the regular meetings of the club. The purposes of the club are to develop sound thinking in marketing theory; to improve marketing personnel; to develop better public understanding and appreciation of marketing problems; to encourage and uphold sound, honest practices; and to promote friendly relations between students, faculty, and businessmen.

## DEPARTMENT OF RESEARCH
Howard L. Balsley, Head

The Department of Research was organized in the Spring of 1948. It is an associate member of the American Association of Bureaus of Business and Economic Research. Its administration is under the direction of the head of the department who is the chairman of the Committee on Business and Economic Research. The members of this Committee are the chairman and a representative from each of the four departments in the School. All faculty members in the School of Business Administration are staff members of the Department of Research. The purposes of the department are:

To encourage research by faculty members in the various fields in the School of Business Administration.

To study industry and trade in the North Louisiana Area.

To prepare and publish monographs where it is deemed they will be of practical use to business and professional men.

To publish the proceedings of various conferences sponsored by the School of Business Administration.

To develop cases, problems, and special syllabi for use in teaching courses offered in the School of Business Administration.

## ABBREVIATIONS

The following abbreviations are used in the School of Business Administration:

| | |
|---|---|
| Accounting | Acct. |
| Agricultural Economics | Ag. Econ. |
| Business Administration | B.A. |
| Economics | Econ. |
| Elective | Elect. |
| Finance | Fin. |
| General Business | G.B. |

| | |
|---|---|
| Management | Mgt. |
| Marketing | Mktg. |
| Office Administration | Off. Adm. |
| School of Business Administration | S.B.A. |
| Statistics | Stat. |

# CURRICULA

## BASIC CURRICULUM

This basic curriculum is required of all students in the School of Business Administration who are enrolled in a four-year curriculum. Freshmen students enrolling in the School of Business Administration who have already decided what curriculum or major they wish to pursue may designate the curriculum when they register. This is done by writing the curriculum name (Accounting, Business Administration, Economics, Secretarial) after the word "Curriculum" on the registration form. Students who have not definitely decided what curriculum they wish to pursue will write "BA-Basic" after the word "Curriculum" on the registration form.

Although students should register in the School of Business Administration for their freshman year if they are interested in entering some field of business; nevertheless, students who register in some other School may transfer into the School of Business Administration after their first year without loss of credits. In other words, all courses taken by any freshman during his first year will be accepted as credits toward graduation if the student transfers into the School of Business Administration at the end of his freshman year.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| Economics 500 (American Industrial Development) | 3 |
| English 401-402 (Reading, Writing, Speaking, Use of Library) | 6 |
| General Business 405 (Introduction to Business) | 3 |
| History 401, 402 (History of the Western World), 501, 502 (History of the U. S.), Political Science 501 (American National Government)[1] | 6 |
| Mathematics 419-420 (Mathematics) | 6 |
| Orientation 401 | 1 |
| Physical Education or ROTC[2] | 2 |
| Office Administration 502 (Intermediate Typing)[3] | 2 |
| Sociology 501 (Principles and Elements)[4] | 3 |
| Total[5] | 32 |

[1] Any combination of these courses is satisfactory, and two may be taken during the same semester.

[2] If a student elects to take ROTC, the semester during which he takes Air Science 405 he should also take at least one of the courses listed in the Basic Curriculum in history, political science, or sociology.

[3] If a student has had no typing, he or she will need to take Office Administration 501. While credit will be given on the student's record for Office Administration 501, the credit will not count in the hours required for the degree.

[4] This course may not be taken during a student's first semester in college.

[5] It would be wise for students who did not make a particularly good high school record to take somewhat fewer hours during their first year and make up the shortage later. In such cases, either economics or sociology might be postponed.

# ACCOUNTING CURRICULUM

## (LEADING TO B. S. DEGREE IN BUSINESS ADMINISTRATION)

The Accounting Curriculum for the B.S. degree is designed to give specialized and thorough training in the profession of accounting in addition to giving a good business and general education. The accounting profession is one of the most rapidly growing professions in the country and is now the second largest profession for men.

Transfer students electing this curriculum will be required to take at least nine semester hours in advanced accounting at Louisiana Tech.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| See Basic Freshman Curriculum | 32 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| Accounting 501, 502 (Elementary) | 6 |
| Economics 501, 502 (Principles) | 6 |
| English 501, 502 (Literature) | 6 |
| General Business 508 (Machines) | 1 |
| General Business 605 (Communications) | 3 |
| Mathematics or Science Electives | 6 |
| Physical Education or ROTC* | 2 |
| Psychology 501 (General) | 3 |
| Total | 33 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Accounting 611, 612 (Intermediate) | 6 |
| Accounting 650 (Cost) | 3 |
| Accounting 654 (Income Tax) | 3 |
| English 636 (Advanced Writing) | 3 |
| Finance 612 (Money, Banking, and National Income) | 3 |
| General Business 620 (Introduction to Data Processing) | 3 |
| Law 645, 646 (Business Law) | 6 |
| Liberal Education Electives** | 3 |
| Statistics 629 (Business Statistics) | 4 |
| Total | 34 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Accounting 711, 712 (Advanced) | 6 |
| Accounting 703 (Auditing) | 3 |
| Accounting Electives | 6 |
| Finance 618 (Financing Business Firms) | 3 |
| General Studies 601 (Americanism vs. Communism) | 1 |
| Liberal Education Electives | 3 |
| Management 610 (Principles) | 3 |
| Management 671 (Human Relations) | 3 |
| Marketing 600 (Principles) | 3 |
| Speech 675-676 (Oral Communications) | 4 |
| Total | 35 |
| Total semester hours for graduation | 134 |

* If a student elects to take ROTC, the semester during which he takes Air Science 506 he should also take Economics 501, 502, Psychology 501, or one of the mathematics or science electives (Mathematics 401, 402, 540; Chemistry 401, 402, 407; Physics 502, 505, 506; Geology 411; Botany 401: Zoology 400).

** Liberal education normally will be taken to include courses in the School of Arts and Sciences, Psychology, Home Economics 400, and Geology 411 and 600.

# PROFESSIONAL ACCOUNTING CURRICULUM

## (LEADING TO BACHELOR OF ACCOUNTING (B.Ac.) DEGREE)

This is a postgraduate professional curriculum in accounting, designed primarily to train professional accountants. The curriculum complies with the recommendations of the Commission on Standards of Education and Experience for Certified Public Accountants and with the general thinking of those professional accounting organizations interested in the development of industrial accountants. With the selection of certain electives, a student may prepare himself to become a Certified Public Accountant or an industrial accountant.

### ADMISSION

All students who have earned a bachelor's degree and achieved a grade-point average of at least 2.5 (A-4, B-3, C-2, D-1, F-0) on all undergraduate work pursued may be admitted to this program, provided they have completed courses in advanced principles of accounting, cost accounting, auditing, and Federal income taxes. Applicants not qualified for regular admission may be granted conditional admission by an accounting faculty committee while satisfying or validating undergraduate deficiences. Conditional status may be changed to regular status when a student earns a minimum of 12 hours credit, provided he has a B-average on all work pursued, including no grade lower than a "C". If at the time a student completes 12 semester hours of credit he is not eligible for regular status, he may not later be admitted to candidacy for a degree.

### GRADUATING SENIORS

A graduating senior at this institution who has a 2.5 average on all work pursued and who lacks and schedules not more than four semester hours for the completion of his bachelor's degree may register for a maximum of nine semester hours (three in summer session) of credit leading toward the Bachelor of Accounting Degree.

### COURSE LOAD

The maximum course load for a student registered for this program during a regular semester is 12 semester hours; the minimum for a full-time student is 6 semester hours. The maximum course load for a student registered for this program during the summer semester is 6 semester hours; the minimum load shall be 3 semester hours. These course-load requirements are not applicable to students actively engaged in internship training.

### DEGREE CANDIDATES

All candidates for the Bachelor of Accounting Degree must earn not less than a B-average on all courses pursued since admission to this program with no grade lower than "C".

| | Semester Hours |
|---|---|
| Accounting 706 (Advanced Income Tax) | 3 |
| Accounting 733 (Accounting Systems and Data Processing) | 3 |
| Accounting 751 (Advanced Cost) | 3 |
| Accounting 791 (Theory of Accounting) | 3 |
| Accounting 793 (Advanced Auditing) | 3 |
| Accounting Electives[1] | 6 |
| Restricted Electives[2] | 9 |
| Total hours required for a B.Ac. degree | 30 |

[1]These six hours are to be selected in the student's area of interest which may be public accounting or industrial accounting. Students having completed thirty-three or more hours in accounting in obtaining their undergraduate degree will not be permitted to elect these additional six hours in accounting. Instead, they must elect six additional hours of non-accounting electives from the courses listed below.

[2]Must be selected from the courses listed below:
Economics 708 (Intermediate Economic Theory)
Finance 610 (Public Finance)
Finance 614 (Investments)
Finance 632 (Property Insurance)
Law 641 (Real Property)
Management 730 (Management Policy and Operations Research)
Mathematics 401 (Algebra)
Statistics 630 (Intermediate Business Statistics)

A student may substitute six hours of internship for six hours of the above electives in accounting. He may not enroll for the internship training until he has completed all of his formal course requirements.

## THE BUSINESS ADMINISTRATION PROGRAM

The business administration program has developed over a period of years as a product of study, observation, and research on the needs of students who plan to enter the business world. It is a program designed to give a broad, liberal-business education. The modern age with its rapid changes has made it essential that the future business man and woman be broadly educated in order to adjust and adapt themselves to changing methods. Futhermore, it has been found that many students move out of their school specialty after entering business. In fact, many students do not take their first job in their specialty. Therefore, it is essential to their future development that they receive training in all of the staff and functional areas of business. In this way, they will be prepared to take full advantage of opportunities that present themselves.

However, a specialty is desirable as an entree or door into the business world. Therefore, a number of specialties are provided in the business administration program. These specialties are called options. The student may select his option at any time but must have chosen it by the junior year. After the option has been selected, the curriculum should be listed in registering by giving the abbreviation B. A. followed by the name of the option. Example, B. A. — Business Management.

## BUSINESS ADMINISTRATION CURRICULUM

(Leading to the B. S. Degree in Business Administration)

| FRESHMAN YEAR | Semester Hours | |
|---|---|---|
| See Basic Freshman Curriculum | | 32 |
| **SOPHOMORE YEAR** | **Semester Hours** | |
| Accounting 501, 502 (Elementary) | 6 | |
| Economics 501, 502 (Principles) | 6 | |
| English 501, 502 (Literature) | 6 | |
| General Business 508 (Machines) | 1 | |
| Mathematics or Science Electives | 6 | |
| Physical Education or ROTC* | 2 | |
| Psychology 501 (General) | 3 | |
| Liberal Education Elective** | 3 | |
| Total | | 33 |

*If a student elects to take ROTC, the semester during which he takes Air Science 506 he should also take Economics 501, 502, Psychology 501, or one of the mathematics or science electives (Mathematics 401, 402, 540; Chemistry 401, 402, 407; Physics 502, 505, 506; Geology 411; Botany 401; Zoology 400).

** Liberal education normally will be taken to mean courses in the School of Arts and Sciences, Psychology, Home Economics 400, and Geology 411 and 600.

| JUNIOR YEAR | Semester Hours | |
|---|---|---|
| Finance 612 (Money, Banking, and National Income) | 3 | |
| Finance 618 (Financing Business Firms) | 3 | |
| General Business 605 (Communications) | 3 | |
| General Business 620 (Introduction to Data Processing) | 3 | |
| General Studies 601 (Americanism vs. Communism) | 1 | |
| Management 610 (Management Principles) | 3 | |
| Marketing 600 (Marketing Principles) | 3 | |
| Statistics 629 (Business Statistics) | 4 | |
| Elective (Liberal Education)* | 3 | |
| Electives (Option) | 6 | |
| Total | | 32 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Accounting 610 (Administrative Accounting), Economics 737 (Aggregate Economic Analysis), or Management or Statistics 730 (Management Policy and Operations Research)* | 6 | |
| English 636 (Advanced Writing) | 3 | |
| Law 645, 646 (Business Law) | 6 | |
| Management 671 (Human Relations) | 3 | |
| Speech 675, 676 (Oral Communications) | 4 | |
| Electives (Option) | 12 | |
| Total | | 34 |
| Total semester hours for graduation | | 131 |

*In the senior year, the student is required to take two of the following courses: Accounting 610, Economics 737, and Management or Statistics 730. If the student decides to take the Accounting 610 course, it is recommended that it be taken during the junior year and to leave the liberal education course until the senior year. In certain elective options, the student is required to take all three courses. In cases where such an option is being followed, it is suggested that the student take the Accounting 610 course during the junior year as indicated above.

## BUSINESS MANAGEMENT OPTION

This option extends the requirement of the business administration curriculum further in the direction of business management. Students who take this option will logically seek management trainee positions in business or industrial enterprises including the larger marketing establishments such as the chain stores.

| | Semester Hours |
|---|---|
| Management 640 (Small Business Management) | 3 |
| Management 670 (Personnel Administration) | 3 |
| Management 675 (Production Management and Control) | 3 |
| Management 730 (Management Policy and Operations Research)* | 3 |
| Marketing 607 (Salesmanship) | 3 |

| | |
|---|---|
| Marketing 773 (Sales Management) | 3 |
| Total | 18 |

*The student will take Accounting 610 and Economics 737 to satisfy the first six-hour requirement in the senior year of the Business Administration Curriculum.

## GENERAL BUSINESS ADMINISTRATION OPTION

This option extends the requirement of the business administration curriculum into additional fields, giving the student an opportunity to further broaden his education for business.

| | Semester Hours |
|---|---|
| Finance 631, 632, or 633 (Life, Property, or Casualty Insurance) | 3 |
| Law 641 (Real Property) or Finance 642 or 643 (Real Estate Principles or Appraisal) | 3 |
| Marketing 607 (Salesmanship) or Finance 610 (Public Finance) or Management 765 (Industrial Traffic Management) | 3 |
| S. B. A. Electives | 9 |
| Total | 18 |

## ECONOMICS OPTION

This option extends the student's training further in economics beyond the courses required in the business administration program. There is an increasing interest in economics among people in the business world, and business administration students who have a greater-than-usual knowledge of economics will undoubtedly find this knowledge of value in their business career.

| | Semester Hours |
|---|---|
| Economics 708 (Intermediate Economic Theory) | 3 |
| Economics 737 (Aggregate Economic Analysis)* | 3 |
| Economics Electives (Advanced Courses) | 6 |
| S. B. A. Electives (Advanced Courses) | 6 |
| Total | 18 |

*The student will take Accounting 610 and Management 730 to satisfy the first six-hour requirement in the senior year of the Business Administration Curriculum.

## FINANCE OPTION

In this option the student's study of finance is extended beyond the two courses of finance required of all students in the business administration program. It is designed for students who are interested in careers in the field of finance. Employment opportunities exist in the finance department of large corporate enterprises and in financial institutions such as commercial banks, savings and loan associations, insurance companies, and commercial finance companies.

| | Semester Hours |
|---|---|
| Economics 737 (Aggregate Economic Analysis)* | 3 |
| Finance 610 (Public Finance) | 3 |
| Finance 614 (Investments) | 3 |
| Finance 740 (Credits and Collections) | 3 |
| Elective in Insurance (Finance 631 or 632 or 633) | 3 |
| Elective in Real Estate (Finance 642 or 643) | 3 |
| Total | 18 |

*The student will take Accounting 610 and Management 730 to satisfy the first six-hour requirement in the senior year of the Business Administration Curriculum.

## INDUSTRIAL MANAGEMENT OPTION

This option is designed for students who are interested in working in a managerial position of an industrial enterprise. It gives a combination of business administration with a study of production or industrial management. The student will take Management 730 as one of the two courses to be chosen from among the three courses first listed in the senior year of the Business Administration Curriculum. It is recommended that students pursuing this option take physics or chemistry to satisfy the mathematics-science elective.

| | Semester Hours |
|---|---|
| Management 631 (Motion and Time Study) | 3 |
| Management 675 (Production Management and Control) | 3 |
| Management 701 (Quality Control) or General Business 720 (Electronic Data Processing) | 3 |
| Management 670 (Personnel Administration) or Management 710 (Factory Planning) | 3 |
| Management 760 (Purchasing and Materials Control) | 3 |
| Mechanical Engineering 551 (Manufacturing Processes) | 3 |
| Total | 18 |

## INSURANCE AND/OR REAL ESTATE OPTION

This option is designed for students who plan to enter some phase of the insurance or real estate fields or a combination of the two. It makes provision for adequate flexibility so that the student can select the courses to fit his particular needs.

Students desiring to specialize in life insurance should elect Finance 631 and 614. Those students desiring a general insurance combination should elect Finance 631 and 633. The student desiring real estate should elect Finance 643 and Law 641. Those students desiring a combination of insurance and real estate should elect Finance 633 and 643 and Law 641.

| | Semester Hours |
|---|---|
| Finance 632 (Property Insurance) | 3 |
| Finance 642 (Principles of Real Estate and Land Economics) | 3 |
| Finance and S. B. A. Electives | 12 |
| Total | 18 |

## MARKETING OPTION

This option is designed for those students who have decided to prepare for careers in marketing or merchandising. It should be chosen by those who wish to enter the retail or wholesale field as junior executive trainees, buyers, or as owners, or who wish to enter marketing work as sales representatives or as junior executive trainees to become supervisors, sales managers, market researchers, or store managers.

| | Semester Hours |
|---|---|
| Marketing 607 or 740 (Salesmanship or Credit Management) | 3 |
| Marketing 620 (Advertising) | 3 |
| Marketing 635 (Retailing) | 3 |
| Marketing 672 or 760 (Consumer Relations or Purchasing) | 3 |
| Marketing 773 (Sales Management) | 3 |
| Marketing 780 (Marketing Problems) | 3 |
| Total | 18 |

Note: Students in marketing should take Marketing 600 during the first semester of the junior year. Normally, the student will thereafter take two marketing courses per semester to complete the marketing option.

## PERSONNEL AND PUBLIC RELATIONS OPTION

This option is designed for students who are interested in personnel management and public relations. Students planning to take this option should use some of their liberal education electives to take additional work in psychology and/or sociology. Attention is called to the following courses: Sociology 505, 615, and Psychology 604, 610, and 645.

| | Semester Hours |
|---|---|
| Economics 608 (Labor Problems) | 3 |
| Journalism 674 (Industrial Publications) | 3 |
| Management 670 (Personnel Administration) | 3 |
| Management 725 (Industrial Safety) | 3 |
| Management 750 (Public Relations) | 3 |
| S. B. A. Elective | 3 |
| Total | 18 |

## PRE-LAW OPTIONS

Students expecting to enter law school are well advised to pursue one of the curricula in the School of Business Administration. A complete college education in business gives an advantage to the law student in law school and to his later career. The work of successful lawyers has come to be more and more connected with the rendering of opinions and counsel on business matters such as banking, insurance, real estate titles, business contracts, etc. Corporations employ many lawyers full time for their contract and other legal work, and the young lawyer who has a degree in business administration will be at a distinct advantage in obtaining and doing such work.

### Pre-Law Option I

Under this option, the student finishes the first three years of the Business Administration Curriculum and then enters law school. After he has finished one full year of law school, making a satisfactory average, he may have transferred back to Louisiana Tech the law credits and receive the Bachelor of Science Degree in Business Administration.

The liberal education electives in the junior year should be taken in social science.

| | Semester Hours |
|---|---|
| English 723 (English Words and Idioms) | 3 |
| Law 641 (Real Property) | 3 |
| Total | 6 |

### Pre-Law Option II

Students who elect this option will finish all requirements for the Bachelor of Science Degree in Business Administration before they enter law school.

The liberal education electives in the junior year should be taken in social science. The student will take Accounting 610 as one of the two courses to satisfy the first six-hour requirement in the senior year of the Business Administration Curriculum.

| | Semester Hours |
|---|---|
| English 609 (Parliamentary Usage) | 2 |
| English 723 (English Words and Idioms) | 3 |
| Free Elective | 1 |
| Law 641 (Real Property) | 3 |

| | | |
|---|---|---|
| Speech 560, 561, 562 (Applied Forensics)* or | | |
| Speech 753 (Public Address) | 3 | |
| S. B. A. Electives | 6 | |
| Total | | 18 |

*If the student is to take forensics, he must begin this prior to the senior year. The student should contact the head of the department of speech and indicate his interest in forensics early in his college career.

## STATISTICS OPTION

This option is for students who desire training which will prepare them for positions involving electric and electronic data processing and for positions in statistics and data processing departments of corporations. This type of work is of increasing importance, and opportunities in the field are good.

Students electing this option must use their mathematics or science electives and some of their other liberal education electives as follows:

For mathematics or science electives:

| | Semester Hours | |
|---|---|---|
| Mathematics 401, 402 | 6 | |
| For liberal education electives: | | |
| Mathematics 540 | 6 | |
| Total | | 12 |

| | Semester Hours | |
|---|---|---|
| General Business 720 (Electronic Data Processing) | 3 | |
| Electrical Engineering 740 (Digital Computers) | 3 | |
| Mathematics 628 (Mathematical Statistics) | 3 | |
| Statistics 630 (Intermediate Business Statistics) | 3 | |
| Statistics 730 (Management Policy and Operations Research)* | 3 | |
| S. B. A. Elective | 3 | |
| Total | | 18 |

*The student will take Accounting 610 and Economics 737 to satisfy the first six-hour requirement in the senior year of the Business Administration Curriculum.

## SPECIAL OPTION

This option is for the student who has some special purpose in mind which the preceding options do not satisfy. He may desire to take a special combination of courses in the School of Business Administration or he may wish to take a combination of courses in business with additional courses in a non-business area. The student may even wish to obtain a minor in some non-business field. Occasionally students plan to do work in other areas because they expect to work in a business enterprise which is involved in such other areas (chemicals, for example). It will be easily possible for such special-purpose situations to be taken care of under this option. More information can be obtained about it in the office of the dean of the School of Business Administration. In any case, a student planning to take advantage of this option will need to have a conference with his counselor to develop the list of courses to be pursued. This conference will need to occur at least by the time the student is entering his junior year so the courses can be determined and the list of them submitted to the office of the dean of the school to be recorded as a part of the student's degree program.

| | |
|---|---|
| Option Electives | 18 |

# ECONOMICS CURRICULUM

## (LEADING TO B. A. DEGREE IN ECONOMICS)

Economics is a challenging field of study for the student who desires to know more about the economic society in which we live. More and more opportunities are opening up in various fields for trained economists, but the chief fields of employment today are in governmental service, industry, and in the teaching profession. Civil service appointments with the Federal government are possible in a variety of departments, but the majority of the higher-paid positions are filled by those who have had additional training beyond the four-year degree. Industrial opportunities are afforded in many cases to those who are trained as professional economists. Both industry and labor have in recent years hired economic advisers as consultants in matters of policy. In the teaching profession, economics is a field which is highly regarded both from the standpoint of opportunities for employment and good salary.

For the student who has combined economics with the field of business administration, additional opportunities are afforded, especially if the four-year degree is a terminal degree for the individual. Many business executives think that economics combined with business is ideal for success in the business world. This combination of broad business, economics, and cultural education is rated equal to the General Business Administration Curriculum for preparation for almost any business career.

A specific economics-mathematics combination would be valuable for students desiring to enter governmental service, since the work of a statistical analyst in government bureaus or agencies necessitates mathematical skills along with training in statistics. Business research foundations, along with large industrial concerns, also employ graduates who have been trained along these lines.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| See Basic Freshman Curriculum | 32 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| Accounting 501-502 (Elementary) | 6 |
| Economics 501-502 (Principles) | 6 |
| English 501-502 (Literature) | 6 |
| General Business 508 (Machines) | 1 |
| Liberal Education Elective** | 3 |
| Mathematics or Science Electives | 6 |
| Physical Education or ROTC* | 2 |
| Psychology 501 (General) | 3 |
| Total | 33 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Accounting 610 (Administrative Accounting) | 3 |
| Economics 608 (Labor Economics) | 3 |
| English 636 (Advanced Writing) | 3 |
| Finance 610 (Public Finance) | 3 |
| Finance 612 (Money, Banking, and National Income) | 3 |
| Finance 618 (Financing Business Firms) | 3 |
| General Business 605 (Communications) | 3 |
| General Business 620 (Introduction to Data Processing) | 3 |
| Management 610 (Management Principles) | 3 |
| Marketing 600 (Marketing Principles) | 3 |
| Speech 675-676 (Oral Communications) | 4 |
| Total | 34 |

| SENIOR YEAR | Semester Hours |
|---|---|
| Economics 708 (Intermediate Economic Theory) | 3 |
| Economics 737 (Aggregate Economic Analysis) | 3 |
| Economics Electives (Advanced Courses) | 9 |
| General Studies 601 (Americanism vs. Communism) | 1 |
| Law 645-646 (Business Law) | 6 |
| Liberal Education Elective | 3 |
| Management 730 (Business Policy and Operations Research) | 3 |
| Statistics 629 (Business Statistics) | 4 |
| Total | 32 |
| Total semester hours for graduation | 131 |

*If a student elects to take ROTC, the semester during which he takes Air Science 506 he should also take Economics 501, 502, Psychology 501, or one of the mathematics or science electives (Mathematics 401, 402, 540; Chemistry 401, 402, 407; Physics 502, 505, 506; Geology 411; Botany 401; Zoology 400).

**Liberal education normally will be taken to mean courses in the School of Arts and Sciences, Psychology, Home Economics 400, and Geology 411 and 600.

## SECRETARIAL CURRICULUM

(LEADING TO B. S. DEGREE IN BUSINESS ADMINISTRATION)

This curriculum is designed to give more than secretarial training. It gives a broad cultural and business education as well as excellent secretarial training and leads to a degree in business administration. Graduates are qualified to enter the business world in many lines. Those who become secretaries are qualified to become true assistants to the executives under whom they work. Busy executives need such assistance as much as they do secretarial help, and this explains why there is such an increasing demand for graduates with the education for which this curriculum provides. The shortage of such trained secretaries is very great, and many more girls are needed to enter the field.

Transfer students electing this curriculum will be required to take at least the last semester of shorthand at this institution regardless of the amount of credit they have earned elsewhere, unless excused on the basis of an examination by the curriculum adviser.

| FRESHMAN YEAR | Semester Hours |
|---|---|
| See Basic Freshman Curriculum | 32 |

| SOPHOMORE YEAR | Semester Hours |
|---|---|
| English 501, 502 (Literature) | 6 |
| Economics 501, 502 (Principles) | 6 |
| General Business 508 (Machines) | 1 |
| Mathematics or Science Electives | 6 |
| Office Administration 503 (Advanced Typewriting) | 2 |
| Office Administration 506, 507 (Elementary and Intermediate Shorthand) | 6 |
| Physical Education | 2 |
| Psychology 501 (General) | 3 |
| Total | 32 |

| JUNIOR YEAR | Semester Hours |
|---|---|
| Accounting 501, 502 (Elementary) | 6 |
| English 636 (Advanced Writing) | 3 |
| Finance 612 (Money, Banking, and National Income) | 3 |
| General Business 605 (Communications) | 3 |
| General Business 620 (Introduction to Data Processing) | 3 |
| General Studies 601 (Americanism vs. Communism) | 1 |

| | | |
|---|---|---|
| Management 610, 671 (Principles, Human Relations) | 6 | |
| Office Administration 603 (Dictation and Transcription) | 4 | |
| Office Administration 607 (Office Systems and Procedures I) | 2 | |
| Speech 675 (Oral Communications) | 2 | |
| Total | | 33 |

| SENIOR YEAR | Semester Hours | |
|---|---|---|
| Finance 618 (Financing Business Firms) | 3 | |
| Law 645, 646 (Business Law) | 6 | |
| Liberal Education Electives | 6 | |
| Marketing 600 (Principles) | 3 | |
| Office Administration 604 (Advanced Dication and Transcription) | 4 | |
| Office Administration 609, 610 (Office Systems and Procedures II, Secretarial Practice) | 4 | |
| Office Administration 680 (Office Management) | 2 | |
| Speech 676 (Oral Communications) | 2 | |
| Statistics 629 (Business Statistics) | 4 | |
| Total | | 34 |
| Total semester hours | | 131 |

## TWO-YEAR STENOGRAPHIC CURRICULUM

### (LEADING TO A SECRETARIAL CERTIFICATE)

This two-year program is designed to help girls with limited financial means to qualify to fill secretarial positions in a short while and at the same time to receive as many of the advantages of college training and experience as time will allow. The program grants full college credit, and this is a distinct advantage in qualifying for positions in government and industry. Also, this fact will make it possible for those who have the opportunity to do so to return to college at some later time and complete the requirements for a college degree.

Students who have had typewriting in high school or elsewhere will generally go on to Office Administration 502 during the first semester. Students who have not had any typewriting before entering Louisiana Tech or who cannot type well enough to go into Office Administration 502 will have to attend one summer school in addition to four semesters. Students who attend two summer schools may shorten the two-year period normally necessary to complete the requirements for the secretarial certificate.

### FRESHMAN YEAR

| First Semester | Semester Hours | |
|---|---|---|
| English 401 (English Composition) | 3 | |
| General Business 405 (Introduction to Business) | 3 | |
| Office Administration 502 (Intermediate Typewriting)* | 2 | |
| Office Administration 506 (Elementary Shorthand) | 3 | |
| Orientation 401 | 1 | |
| Physical Education (Activity) | 1 | |
| Liberal Education Elective** | 3 | |
| Total | | 16 |

| Second Semester | Semester Hours |
|---|---|
| English 402 (English Composition) | 3 |
| Mathematics 400 (Introductory College Algebra) | 3 |
| Office Administration 503 (Advanced Typewriting) | 2 |
| Office Administration 507 (Intermediate Shorthand) | 3 |

| | | |
|---|---|---|
| Physical Education (Activity) | 1 | |
| Liberal Education Elective | 3 | |
| Total | | 15 |

SOPHOMORE YEAR

| First Semester | Semester Hours | |
|---|---|---|
| Accounting 501 (Elementary) | 3 | |
| Economics 501 (Economic Principles) | 3 | |
| English 502 (American Literature) | 3 | |
| General Business 508 (Machines) | 1 | |
| Office Administration 603 (Dictation and Transcription) | 4 | |
| Physical Education (Activity) | 1 | |
| Free Elective | 3 | |
| Total | | 18 |

| Second Semester | Semester Hours | |
|---|---|---|
| Economics 502 (Economic Principles) | 3 | |
| General Business 605 (Communications) | 3 | |
| Office Administration 604 (Advanced Dictation and Transcription) | 4 | |
| Office Administration 607 (Office Systems and Procedures I) | 2 | |
| Office Administration 609 (Office Systems and Procedures II) | 2 | |
| Physical Education (Activity) | 1 | |
| Total | | 15 |
| Total semester hours for certification | | 64 |

*Students who have not had a year of typewriting in high school will have to take Office Administration 501.

**Liberal education normally will be taken to mean courses in the School of Arts and Sciences, Psychology, Home Economics 400, and Geology 411 and 600.

# Department of Accounting

HAROLD J. SMOLINSKI, PROFESSOR AND HEAD OF THE DEPARTMENT
PROFESSORS: James T. Johnson, William S. Knight, William R. Rives
ASSOCIATE PROFESSOR: Kermit Knighton
ASSISTANT PROFESSOR: Russell Ferrington

## REQUIREMENTS FOR A MINOR IN ACCOUNTING

Accounting 501, 502, 611, 612, 650 or 654, 711, 712, and 703. Students in other schools may not major in Accounting. They may elect additional hours to those required for the minor. It is recommended that they do so, since the courses listed for the minor constitute the minimum requirement to prepare one for successful job performance in the field.

## DESCRIPTION OF ACCOUNTING COURSES

**500: Survey of Accounting for Engineers.** 0-3-3.* A one-semester course in accounting principles for engineering students who will not take additional courses in accounting principles. I.**

**501: Elementary Accounting.** 3-2-3. Usage of accounting data; theory of debits and credits; journalizing and posting; adjusting, closing, and reversing journal entries; worksheets; statements; special journals and ledgers. I, II.

**502: Elementary Accounting.** 3-2-3. Pre'q., Accounting 501. Continuation of Accounting 501, manufacturing accounting; partnerships and corporations. I, II.

**510: General Accounting.** 0-3-3. A semester survey course in accounting principles. The course is designed especially for students in the schools of Arts and Sciences, Agriculture and Forestry, and Home Economics who desire some knowledge of accounting for personal and business reasons. The course is not open to students in business administration or in business education (such students should take Accounting 501-502) or engineering students (for whom Accounting 500 has been designed). II.

**610: Administrative Accounting.** 0-3-3. Pre'q., Accounting 502. This course considers the use of accounting and accounting and financial statements in business, finance, administrative control and decision making. I, II.

**611: Intermediate Accounting.** 0-3-3. Pre'q., Accounting 502. Balance sheet valuations; income and surplus statements. I, II.

**612: Intermediate Accounting.** 0-3-3. Pre'q., Accounting 611. A continuation of Accounting 611. Errors and their corrections; statement analysis; statements from incompleted records; and long term debt. I, II.

**650: Cost Accounting.** 0-3-3. Pre'q., Accounting 502 or 500. A study of cost systems; accounting peculiar to manufacturing enterprises; making cost statements; and solving cost problems. I, II.

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* First number, laboratory hours per week; second, lecture hours per week; third, credit value.

** Roman numeral I indicates that the course is offered during the first semester; Roman numeral II, the second semester. If no numeral is given, it means the course will not be offered during the catalog year.

653: **Accounting for Individual Taxation.** 0-3-3. Pre'q., Junior standing. A study of the terminology and some basic principles of Federal and state income taxes and Social Security taxes as they affect the individual as an employee, single proprietor of a business, and as a partner in a business enterprise. This course is not open to accounting majors. It is designed to accommodate those who may not have any previous business training.

654: **Income Tax.** 0-3-3. Pre'q., Accounting 502 or permission of adviser. A study of Federal income tax laws and state income tax laws and their effect on individual income; solution of income tax problems; practice in making individual income tax statements on the cash basis or accrual basis; the calendar year or fiscal year. I, II.

703: **Auditing.** 0-3-3. Pre'q., Credit for or registration in Accounting 711. Auditing procedures; working papers and reports. I, II.

706: **Advanced Income Tax.** 0-3-3. Pre'q., Accounting 654. A continuation of Accounting 654 with further study into tax problems of fiduciaries, partnerships, and corporations; solution of problems; practice in filing income tax statements. I.

710: **Municipal and Governmental Accounting.** 0-3-3. Pre'q., Accounting 612. Accounting procedures of the Federal, municipal and state governments, including, in addition to the general accounting procedures, accounting for bond funds, revolving funds, special assessment funds, trust funds, and utility funds. Special attention is given to the preparation of the budget, to budgetary control and to the preparation of financial statements. I.

711: **Advanced Accounting.** 0-3-3. Pre'q., Accounting 612. A study of higher accountancy; problems met in practical accounting; fiduciary accounting; partnerships and joint ventures; and installment sales. I, II.

712: **Advanced Accounting.** 0-3-3. Pre'q., Accounting 711. A continuation of Accounting 711. Consolidated statements. I, II.

733: **Accounting Systems and Data Processing.** 0-3-3. Pre'q., Accounting 711. A study of accounting systems and a study of punched card and electronic computers for processing and programming accounting data. II.

751: **Advanced Cost Accounting.** 0-3-3. Pre'q., Accounting 650 or permission of adviser. A study of the advanced phases of cost accounting; standard costs; distribution costs; cost analysis. I.

780: **Modern Accounting Principles and Procedures.** 0-3-3. Pre'q., Permission of adviser. A course designed to prepare the student in modern business principles and procedures. Accounting machines, theory and practice of modern internal control, current audit procedures, and current accounting principles.

785: **Controllership.** 0-3-3. Pre'q., Permission of adviser. A study of the duties and responsiblities of the chief accounting officer of an organization. Includes application of accounting and statistical data in formation of business policies related to financial administration.

788: **Budgetary Accounting.** 0-3-3. Pre'q., Permission of adviser. Budget preparation in an industrial concern. Cost and income controls. I.

790: **C. P. A. Problems.** 0-3-3. Pre'q., Permission of adviser. An intensive problem course in C. P. A. examinations. II.

791: **Theory of Accounting.** 0-3-3. Pre'q., Permission of advisor. An intensive review of accounting theory. II.

**792: Law for Accountants. (Same as Law 792).** 0-3-3. Pre'q., Permission of adviser. An intensive review of C. P. A. business law questions found in the C. P. A. examinations.

**793: Advanced Auditing.** 0-3-3. Pre'q., Permission of advisor. Intensive study of professional conduct, auditing standards, auditor's liability, reports, and internal auditing. II.

**795: Internship in Accounting.** 0-0-3. Pre'q., Senior standing in accounting. The internship will be for a minimum period of three months, full-time employment. Qualified students will submit their applications in prescribed form to the accounting adviser. Cooperating firms will be furnished with a list of approved applicants. A student who has been accepted for internship will become a paid employee of the firm's staff during the period of training. During this period, he will be registered as a regular student in the School, but he will take no other courses and will live where required by the conditions of the assignment. Upon the completion of the training period, the student will be required to submit a written report covering fully the nature of the experience afforded during his association with the firm. To assist in evaluating the student's work, the firm will also make a report on his performance and progress. Internship training is available in Public Accounting and Industrial Accounting.

**796: Internship in Accounting.** 0-0-3. Pre'q., Accounting 795 and senior standing in Professional Accounting. A continuation of Accounting 795 in Industrial or Public Accounting.

# Department of Business

BURTON R. RISINGER, PROFESSOR AND HEAD OF THE DEPARTMENT

PROFESSORS: Minnie B. Tracey, Amos W. Ford, Howard L. Balsley, Paul T. Hendershot, W. T. Meek.

ASSOCIATE PROFESSORS: Fairy C. McBride, Dwayne L. Oglesby, Kermit Knighton, T. L. Whitesel.

ASSISTANT ROFESSORS: James F. Butler, Lee L. Denny, Jarrett Hudnall, Jr., Claudine C. Kennedy.

## REQUIREMENTS FOR A MINOR IN THE DEPARTMENT OF BUSINESS

Students in any of several non-business fields may be employed by a business or industrial firm or engaged in a business activity for themselves. This is true of students in agriculture, forestry, chemistry, mathematics, physics, engineering, and liberal education in general. The General Electric Company asked the 13,586 employees who are college graduates to list the course fields which they considered were most important to a career. All non-engineering graduates listed courses in business and in economics as two of the three most important course fields, both for career and for management responsibility. Engineers reported economics and business courses as two of the four most important course fields for management responsibility. This survey demonstrates that most graduates in the various fields of specialty come to regard courses in economics and in business as contributing toward their success in the business world. It is interesting to note that non-engineering students placed miscellaneous or general business courses as of first importance in listing course fields which had contributed most to their leisure time.

Four minors are offered in this department as follows: Management, Marketing, Statistics, and General Business. See the Department of Economics and Finance for the requirements for a minor in Finance, including Insurance and Real Estate.

To minor in Management or Marketing, the following requirements must be met: Accounting 510*, Economics 515* and additional courses in the minor to complete 21 semester hours.

The Statistics minor is offered for mathematics majors. Its requirements are as follows: Accounting 510*, Economics 515*, General Business 620, General Business 720 or Electrical Engineering 740, Statistics 629 and 630, plus a three-hour elective in business.

*If Accounting 510 is not offered, the student may take Accounting 501; if Economics 515 is not offered, he may take Economics 501.

The General Business minor is offered for the student who wants broad training in business to supplement his training in another area. The minor in General Business consists of Accounting 510* or 501 and 502, Economics 515 or 501 and 502, and additional courses to complete the requirement of 21 semester hours.

## DESCRIPTION OF COURSES

### GENERAL BUSINESS COURSES

**405: Introduction to Business.** 0-3-3*. General survey of the nature, organization, and functions of modern business enterprises; dealing with business ownership types, personnel requirements, marketing, finance, managerial controls, and government regulation. I, II.**

**508: Office Machines.** 3-0-1. Operation of calulating machines having statistical and accounting use. I, II.

**605: Communications.** 0-3-3. Pre'qs., Office Administration 502 and English 402 or permission. Practice in analyzing and composing all types of business letters and business reports. I, II.

**620: Introduction to Data Processing.** 3-2-3, Pre'q., General Business 508 or permission and Accounting 502. An introduction to the nature and use of punched card and automatic computer equipment, costs, justification, information handling, business systems, and computation fundamentals. I, II.

**720: Electronic Data Processing.** 3-2-3. Pre'q., General Business 620 or permission of instructor. Application of business-statistical and general purpose electronic computers to accounting, market research, statistical problems and business analysis; management application studies; field trips; and programming. I, II.

**721: Programming IBM 650.** 3-0-1. A course in programming the IBM 650 Data Processing Machines. The course may be taken either with credit or without credit. I, II.

### FINANCE, INSURANCE, REAL ESTATE COURSES

(See Finance in the Department of Economics and Finance)

### LAW COURSES

**641: Real Property Law.** 0-3-3. Pre'q., junior standing. Nature of real property, titles, easements, contracts, deeds, mortgages, descriptions, mineral rights, community property, successions, and such other things as are of wide practical use to all individuals from either a personal or business point of view. I, II.

**645: Business Law.** 0-3-3. Pre'q., junior standing. A course designed to familiarize the student with the legal aspects of business transactions. Subjects considered are: nature and source of law, courts and court procedure, and workmen's compensation, contracts, agency. I, II.

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* First number, laboratory hours per week; second, lecture hours per week; third, credit value.

** Roman numeral I indicates that the course is offered during the first semester; Roman numeral II, the second semester. If no numeral is given, it means the course will not be offered during the catalog year.

646: **Business Law.** 0-3-3. Pre'q., Law 645. A continuation of Law 645. Subjects considered are negotiable instruments, personal property, sales, bailments, trade regulations, and chattel mortgages. I, II.

792: **Law for Accountants.** (Same as Accounting 792). 0-3-3. Pre'q., Permission of adviser. An intensive review of C. P. A. business law questions found in the C. P. A. examinations.

## MANAGEMENT COURSES

610: **Management Principles.** 0-3-3. Pre'q., junior standing. A course covering modern management background, management and organization principles; managerial planning and control; financial management; procurement and materials management and policies; personnel and marketing management; office management; research; and public relations. I, II.

631: **Motion and Time Study.** (Same as Industrial Engineering 631). 3-2-3. Pre'q., Management 610. Study of the methods of analyzing production processes and operations for economical operation and methods improvement. Study of the use of a slow-motion camera for micromotion analysis. Use of time studies for rating methods and standardization. I.

640: **Small Business Management.** 0-3-3. Pre'q., Management 610. Organizing and operating the small business, with special attention to personal qualifications, capital requirements, location, sources of assistance. I, II.

670: **Personnel Administration — Industrial Relations.** 0-3-3. Pre'q., Management 610. Administration of the company personnel department; personnel policies; employment procedures and administration; personnel practices and techniques furthering favorable industrial relations. I.

671: **Human Relations in Management.** 0-3-3. Pre'q., Management 610. The art of human relations; employee work environment; problems of functionalization; quest for security; executive leadership and supervision; communicating with employees; meetings and group dynamics; organization structure and charting; employee counseling; collective bargaining and grievance systems; morale and its appraisal. II.

675: **Production Management and Control.** 0-3-3. Pre'q., Management 610. Management principles and methods as applied to the production and allied departments; plant layout; material handling; operation and process standardization; productive capacity; shop organization; motion and time study; and related topics affecting production. I, II.

680: **Office Management.** 0-2-2. Pre'q., Management 610. (See Office Administration 680).

701: **Quality Control.** (Same as Industrial Engineering 701). 0-3-3. Pre'q., Mechanical Engineering 551 and Statistics 629. A study of the application of statistical techniques to the control of quality in industrial production. Sampling inspection methods. Tolerance systems. Organization for and administration of quality control. I, II.

710: **Factory Planning** (Same as Industrial Engineering 710). 3-2-3. Pre'q., Mechanical Engineering 551, Management 631 and Management 675. A study of the planning of a factory to provide for capacity, production machines and equipment, materials handling services, storerooms, personnel, facilities and safety. The choice of building types and machines. II.

**725: Industrial Safety** (Same as Industrial Engineering 725). 0-3-3. Pre'q., Management 670. A study of the safety movement in American Industry. Cost of accidents. Administration of safety. Engineering for safety.

**726: Materials Handling** (Same as Industrial Engineering 726). 0-3-3. Pre'q., Management 675. A study of modern materials handling methods, systems, equipment, and control.

**730: Business Policy and Operations Research (Same as Statistics 730).** 3-2-3. Pre'q., General Business 620 and Statistics 629. Modern decision-making techniques of management, including linear programming and operations research methods applied to business policy and the solution of managerial problems. I.

**750: Public Relations.** (Same as Journalism 750). 0-3-3. Pre'q., Management 610. Nature and theory of public relations. Human behavior identification and explanation, description of people's reactions in social situations, and evaluating the importance of public opinion in the modern world. II.

**760: Purchasing and Materials Control.** (Same as Marketing 760). 0-3-3. Pre'q., Marketing 600 and Management 610. Principles of procurement and analysis of problems; emphasis on organization, procedures, quality and quantity control, price polices, sources of supply, receipt, inspection, and standards of performance. I.

**765: Industrial Traffic Management.** 0-3-3. Pre'q., Management 610. Problems of purchasing transportation services by firms, including carrier relationships; considerations determining the carrier type—railroad, water, highway, and air; carriage contracts; liability; insurance; freight classification and rates; shipping documents and their preparation; claims; demurrage; transit privileges; and government regulations.

## MARKETING COURSES

**600: Marketing Principles and Policies.** 0-3-3. Pre'q., Economics 501. Functions; retail and wholesale institutions; policies, with their business, economic and social implications. I, II.

**607: Salesmanship.** 0-3-3. Pre'q., for SBA students, Marketing 600; for others, junior standing. Considers the salesman, merchandise, customer, and human nature; personality development emphasized; explanation of selling services, ideas, and merchandise; stress placed on proper approach, convincing argument, overcoming objections, and closing the sale. I, II.

**620: Business Advertising.** 0-3-3. Pre'q., Marketing 600. A study of principles of advertising, enabling student to appraise their effectiveness as marketing tools; attention given to economic aspects of advertising with reference to cost, types of media, research, and organization. II.

**635: Retailing.** 0-3-3. Pre'q., Marketing 600. A general survey of merchandise distribution; special attention given to policies, methods and problems of direct selling at the retail level, and to store organization, operation, and services. I.

**672: Consumer Relations. (Same as Economics 672).** 0-3-3. Pre'q., Marketing 600. Nature of consumer demand; aids, including government and private agency activities, to satisfying needs and wants effectively and economically. I.

**740: Credit Management and Collections.** (Same as Finance 740). 0-3-3. Pre'q., Marketing 600. Credit policies, procedures, organization;

sources of credit information and analysis and evaluation of credit information; relation of credit to sales, credit promotion; determination of credit limits, statement analysis and collection procedures. II.

**760: Purchasing and Materials Controls.** (Same as Management 760). 0-3-3. Pre'q., Marketing 600 and Management 610. Principles of procurement and analysis of problems; emphasis on organization, procedures, quality and quantity control, price policies, sources of supply, receipt, inspection, and standards of performance. I.

**773: Sales Management.** 0-3-3. Pre'qs., Marketing 600, 607. Relation of sales department to other departments; types of sales organizations; selection, training, compensation, management of sales force; research and market analysis; price policies, sales budgets; distribution costs. I.

**780: Marketing Problems.** 0-3-3. Pre'q., marketing major, senior standing. Consideration of principles and policies as applied to actual business situations. II.

**782: Market Research and Analysis.** 0-3-3. Pre'q., marketing major, senior standing. A consideration of marketing research as a tool of management; application of research techniques to various marketing problems.

## STATISTICS COURSES

**629: Business Statistics.** 3-3-4. Pre'q., General Business 508 recommended. Collection and organization of business and economic data; tabular and graphic methods of presentation; statistical distributions; measures of central tendency and measures of dispersion; statistical inference, including probability theory and the normal curve, statistical estimation, tests of hypotheses, and sampling methods. I, II.

**630: Intermediate Business Statistics.** 3-2-3. Pre'q., Statistics 629. The analysis of time series, including secular, cyclical, seasonal, and erratic influences; the uses and construction of index numbers; correlation. II.

**730: Business Policy and Operations Research (Same as Management 730).** 3-2-3. Pre'q., General Business 620 and Statistics 629. Modern decision-making techniques of management, including linear programming and operations research methods applied to business policy and the solution of managerial problems. I.

# Department of Economics and Finance

PAUL T. HENDERSHOT, PROFESSOR AND HEAD OF DEPARTMENT

PROFESSORS: Amos W. Ford, Kenneth R. Grubbs, Wilbur T. Meek, B. R. Risinger.

ASSOCIATE PROFESSORS: E. Carl Jones, Theodore L. Whitesel.

ASSISTANT PROFESSORS: James F. Butler, Jack N. Thornhill.

## REQUIREMENTS FOR A MINOR
(For students in other schools)

To minor in Finance, including Insurance and/or Real Estate, the following requirements must be met: Economics 501, 502, and fifteen hours of Finance courses. Law 641 may be used to satisfy three of the fifteen hours for students interested in Real Estate.

To minor in Economics, the following requirements must be met: Economics 501, 502, Finance 612, and twelve hours of Economics courses. A Finance course (other than Insurance or Real Estate) may be used to satisfy three of the twelve hours.

## DESCRIPTION OF COURSES

### AGRICULTURAL ECONOMICS COURSES

**630: Principles and Practices of Agricultural Marketing.** 0-3-3*. Pre'q., Economics 501. Methods and channels of agricultural marketing; governmental action concerned with the marketing process; analysis of the American "agricultural problem" as a marketing problem. I.**

**702: Economics of Farm Management.** 0-3-3. Pre'q., Senior standing. Economic principles of farm organization and management, and study of farm record systems, with special emphasis on southern agricultural conditions. II.

### ECONOMICS COURSES

**500: American Industrial Development.** 0-3-3. Modern industrial and institutional development within the American economic system; effects of "atomic age" development upon decentralization of industry; rapid development of industry in the South and West; domestic and international problems of American industrial development. I, II.

**501: Economic Principles and Problems.** 0-3-3. Not open to Freshmen. Study of basic economic principles and practices; production, distribution, exchange, and consumption analysis; determination of value and prices under competition, monopoly, and monopolistic competition; problems in money, credit and banking; role of government in economic activity; business cycles. I, II.

**502: Economic Principles and Problems.** 0-3-3. Pre'q., Economics 501. A continuation of Economics 501. Further emphasis on principles

* First number, laboratory hours per week; second, lecture hours per week; third, credit value.

** Roman numeral I indicates that the course is offered during the first semester; Roman numeral II, the second semester. If no numeral is given, it means the course will not be offered during the catalog year.

of economics in the field of distribution; rent, wages, interest, and profits; international trade and finance; economics of war and defense; analyses of Capitalism, Socialism, Communism, and Fascism as economic systems. I, II.

515: **Fundamentals of Economics.** 0-3-3. Pre'q., sophomore standing. A course designed to afford the student a basic survey of the fundamentals or principles in economic analysis in one semester. In addition to analytic treatment of the production function and the price system, the course covers special economic problems relating to money and banking, national income, economic growth, business fluctuations, international trade, labor problems, distribution of income, and various economic systems. (This course is not open to students in the School of Business Administration or the School of Engineering or to students majoring in business education. Students in those areas should take the two-semester course, Economics 501-502.) I, II.

606: **Comparative Economic Systems.** 0-3-3. Pre'q., Economics 502. Careful analysis of the various types of economic systems, including Capitalism, Socialism, Communism, Fascism, and Cooperation; both theoretical and practical aspects; historical and analytical data pertaining to each system. II.

608: **Labor Economics and Problems.** 0-3-3. Pre'q., Economics 502. Historical, descriptive, legal, and theoretical aspects of labor economics and problems; unionism; collective bargaining; labor-management problems; social security, government and labor. I.

616: **Current Events in Economics.** 0-3-3. Pre'q., Economics 502. Organized picture of current world events and problems; farm problem; labor movement; government aid programs; economic and political reforms and philosophies; economic growth and America's economic future. I, II.

644: **International Trade.** 0-3-3. Pre'q., Economics 502. Examination of principles of international trade; study of various theories of trade in the economic affairs of nations. I.

646: **Transportation.** 0-3-3. Pre'q., Economics 502. Development of transportation systems in the United States; principles and practices of transport regulation by governmental agencies. II.

672: **Consumer Economics.** 0-3-3. Pre'qs., Economics 502 and Marketing 600. (See Marketing 672). I.

708: **Intermediate Economic Theory.** 0-3-3. Pre'q., Six hours of advanced Economics and senior standing. Intensive study of economic theory as applied in the fields of production, distribution, exchange, and consumption; value and price under varying conditions; practical application of theory to business and industrial activities in the modern economy. I.

737: **Aggregate Economic Analysis.** 0-3-3. Pre'qs., Economics 502 and Finance 612. This course deals with the aggregative aspects of the firm's economic environment: economic growth, forecasting business conditions and cyclical variations, fiscal policy, public finance, problems of economic choice associated with the goals of stability and growth. The objective is to develop in the students an awareness of the impact of dynamic force on economic activity in general, and especially on the decisions which must be made by firms, individual sellers, investors, and by society as a whole. II.

## FINANCE COURSES

610: **Public Finance.** 0-3-3. Pre'q., Economics 502. Critical appraisal

of income and expenditure patterns of Federal, state, and local governments; theories and practices of taxation; current public finance affairs of Louisiana and the United States. I.

**612: Money and Banking and National Income.** 0-3-3. Pre'q., Economics 502. Nature and functions of money and credit; forms of credit instruments; money and prices; commercial banking and Federal Reserve System; financial institutions; international finance; financial problems and national income. I, II.

**614: Investments.** 0-3-3. Pre'qs., Economics 502 and Accounting 502. Various types of stocks and bonds available for investment purposes; prerequisites of sound investment program; analysis of business factors; operating ratios of corporations; analysis of financial statements and credit risks. I, II.

**618: Financing Business Firms.** 0-3-3. Pre'qs., Economics 502 and Accounting 502. Survey of the process of organizing, managing, and expanding business firms; types of stocks and bonds; financial policies; business debts; corporate control; financial difficulties of business; adjustments, reorganizations, and liquidation process. I, II.

**631: Life Insurance.** 0-3-3. Pre'q., junior standing. A comprehensive study of personal insurance, including life, health, accident, hospitalization insurance, Old Age and Survivors Insurance, and annuities. I, II.

**632: Property Insurance.** 0-3-3. Pre'q., junior standing. A comprehensive study of fire insurance, principles, practices, carriers, and elements of rate making including a study of extended coverage and allied fire contracts: latter part devoted to a study of inland and ocean marine insurance. I.

**633: Casualty Insurance.** 0-3-3. Pre'q., junior standing. A study of automobile direct loss and liability insurance; burglary, robbery, forgery, and miscellaneous coverage; credit, title, and aviation insurance; workman's compensation and unemployment compensation insurance; and surety and fidelity bonds. II.

**642: Principles of Real Estate and Land Economics.** 0-3-3. Pre'q., junior standing. Land economics, nature and causes of city growth; investment and business opportunities in real estate; creation and preservation of neighborhood values; growth and decline of neighborhoods; financing home ownership; and real estate financial institutions. I.

**643: Appraisal.** 0-3-3. Pre'q., junior standing. The economics of value; the levels of property valuation with emphasis on appraisal for financing purposes; the principles affecting residential and commerical values; methods of appraising property utilizing the reproduction cost, market data, and income approaches. Course corresponds to Appraisal I, Basic Principles, Methods and Techniques, American Institute of Real Estate Appraisers. II.

**740: Credit Management and Collections.** (Same as Marketing 740). 0-3-3. Pre'q., Marketing 600. Credit policies, procedures, organization; sources of credit information and analysis and evaluation of credit information; relation of credit to sales credit, promotion; determination of credit limits, statement analysis and collection procedures. II.

# Department of Office Administration

LUCILLE W. CAMPBELL, PROFESSOR AND HEAD OF THE DEPARTMENT

PROFESSOR: Irol Whitmore Balsley

ASSOCIATE PROFESSOR: Ethel H. Kelly

ASSISTANT PROFESSORS: Cliffo D. Crump, Claudine C. Kennedy.

INSTRUCTOR: Helen W. Jones

## REQUIREMENTS FOR A MINOR IN OFFICE ADMINISTRATION

(For students in other schools)

Office Administration 501, 502, 503, 506, 507, 603, 604, 607, and 609 if 501 was omitted for a total of 22 hours.

## DESCRIPTION OF OFFICE ADMINISTRATION COURSES

**501: Elementary Typewriting.** 5-0-2*. Beginning course with emphasis on correct technique and skill building. Speed and accuracy developed through drills, exercises, and timed writings. Typing of simple business letters, rough drafts, manuscripts, and tabulated reports. I, II.**

**502: Intermediate Typewriting.** 5-0-2. Pre'q., Office Administration 501. Continuation of skill building and development of sustained typing ability. Typing of more difficult office problems. I, II.

**503: Advanced Typewriting.** 5-0-2. Pre'q., Office Administration 502. Stresses technique improvement and the further development of sustained typing ability. Typing of stencils and masters for the duplicating processes, business correspondence, business forms, statistical and legal reports, and minutes of meetings. All makes electric typewriters used. I, II.

**506: Elementary Shorthand.** 3-2-3. Beginning course covering the theory of Gregg Shorthand. Development of fluency in reading and writing shorthand. I, II.

**507: Intermediate Shorthand.** 3-2-3. Pre'q., Office Administration 506. Continuation of skill building with emphasis on developing speed in taking dictation. Considerable attention given to pretranscription training. I, II.

**603: Dictation and Transcription.** 5-2-4. Pre'qs., Office Administration 503, 507, and demonstrated ability to take dictation at 70 words a minute. Transcription of all types of business correspondence and reports on all makes of electric typewriters. Stress on mailable copy. Introduction of office-style dictation. Continuation of speed building in taking dictation. I, II.

**604: Advanced Dictation and Transcription.** 5-2-4. Pre'qs., Office Administration 603 and demonstrated ability to take dictation at 80 words a minute. Emphasis on speed building, production of mailable copy, office-style dictation, and mastery of specialized vocabularies. I, II.

**607: Office Systems and Procedures I.** 3-1-2. Pre'q., Office Administration

* First number, laboratory hours per week; second, lecture hours per week; third, credit value.

** Roman numeral I indicates that the course is offered during the first semester; Roman numeral II, the second semester. If no numeral is given, it means the course will not be offered during the catalog year.

603. Methods of performing and supervising office services using such equipment as dictating and transcribing machines, duplicating machines (direct, stencil, and offset processes), PBX board. Postal and shipping services. Receptionist duties including telephone techniques. Complicated statistical reports. I, II.

609: **Office Systems and Procedures II.** 0-2-2. Pre'q., Office Administration 603. Discussion and problems relating to the following aspects of secretarial practices: office ethics and etiquette, developing a secretarial personality, organizing routine duties, filing procedures, locating and organizing business information, advancement on the job. I, II.

610: **Secretarial Practice.** 5-0-2. Pre'qs., Office Administration 603 and 607. Actual office experience under supervision; specialized dictation; experience in use of varous duplicating machines, dictating and transcribing machines, Addressograph and Graphotype. I, II.

680: **Office Management.** 0-2-2. Pre'q., Management 610. Office physical layout and space utilization study; job analysis, specifications, qualifications; in-service and induction training programs; office supervision technique; office morale; controlling costs, report preparation; office furniture, equipment and supplies; salary administration. I.

# SCHOOL

# OF

# EDUCATION


C. T. WOODARD, *Dean*

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* For information concerning the following, please refer to the General Catalog for Louisiana Polytechnic Institute: Location of College, Buildings and Grounds, Oragnization of College, Rating, Sessions, Degrees, Courses of College Instruction, Veterans' Education, Admission Requirements, Registration, Graduation Requirements, Expenses, Examinations, Credit Examinations, System of Grading, Quality Points, Honors, Conduct and Discipline, Financial Aid, Self-Help, Guidance, Orientation, Student Organizations, Student Publications, Athletics, Placement and Service, Miscellaneous.

# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Wed. May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# SCHOOL OF EDUCATION

## Officers of Instruction

### HEADS OF DEPARTMENTS

ELEMENTARY EDUCATION: Jason C. Owen, B.A., Louisiana Polytechnic Institute; M.A., Colorado State College of Education; Ed.D., University of Missouri. (1949)

HEALTH AND PHYSICAL EDUCATION: George B. Hogg—B.A., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1934)

SECONDARY EDUCATION: John Ardis Cawthon—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University; Ed.D., University of Texas. (1954)

SPECIAL EDUCATION: Ralph L. Wooldridge—B.S., M.A., Baylor University, (1955)

### PROFESSORS

Wilmore J. Bordelon, *Education*—B.A., Southwestern Louisiana Institute; M.A., Ph.D., Louisiana State University. (1947)

John Ardis Cawthon, *Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University; Ed.D., University of Texas. (1939; 1948; 1954)

George P. Freeman, *Education*—B.A., Louisiana State University; M.A., Columbia University; Ed.D., George Peabody College. (1947)

George B. Hogg, *Physical Education*—B.A., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1934)

Lovick P. McLane, *Physical Education*—B.A., Maryville College; M.A., Howard College; M.S., Louisiana State University. (1934)

George C. Poret, *Psychology*—L.I., Louisiana State Normal College; A.B., Southwestern Louisiana Institute; M.A., Louisiana State University; Ph.D., George Peabody College. (1939)

Clifford T. Woodard, *Education*—B.A., Louisiana Polytechnic Institute; M.A., George Peabody College. (1947)

## ASSOCIATE PROFESSORS

Wilbur L. Bergeron, *Psychology*—B.A., Louisiana College; M.A., George Peabody College; Ed.D., University of Arkansas. (1953)

LaRue Cocanougher, *Education*—B.A., Centre College; M.A., Peabody College for Teachers; Ed.D., George Peabody College. (1956)

W. M. Crow, *Education*—B.S., Louisiana Polytechnic Institute; M.S. & Ed.D., University of Arkansas. (1959)

Mildred M. Gantt, *Library Science*—A.B., Howard College; B.S. (L.S.), Louisiana State University; M.S., (L.S.) George Peabody College. (1949)

Jason C. Owen, *Education*—B.A., Louisiana Polytechnic Institute, M.A., Colorado State College of Education; Ed.D., University of Missouri. (1949)

Bobby E. Tabarlet, *Education*—B.A., Southwestern Louisiana Institute; M.A., Ph.D., Louisiana State University. (1958)

A. Huey Williamson, *Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1946)

Ralph L. Wooldridge, *Education*—B.S., M.A., Baylor University. (1955)

Edna Yarbrough, *Physical Education*—B.S., M.A., Texas State College for Women. (1946)

## ASSISTANT PROFESSORS

Wilma S. Booles, *Education*—B.S. Northwestern State College; M.S., Oklahoma State University, (1954)

Rudolph V. Burrough, *Education*—B.S.E., Arkansas State Teachers College; M.A., Columbia University. (1955)

Archie Craig, *Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1955)

Nelwyn M. Craig, *Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1956)

Bobby L. Freeman, *Education*—B.A., M.A., Baylor Uni versity. (1959)

Mary Louise S. Gandy, *Physical Education*—B.S., Texas State College for Women; M.A., Colorado State College of Education. (1950-1955) (1958)

John N. Hay, *Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1952)

Clifton M. Huddleston, Jr., *Education*—B.A., North Texas State Teachers College; M.S.W., Tulane University. (1957)

Sybil F. Leachman, *Physical Education*—B.S., Louisiana Polytechnic Institute; M.S., Northwestern State Colversity. (1960)

Walter J. Mallerich, *Education*—Ph.B., M.Ed., Loyola University. (1960)

Loyce Elaine Preston, *Education*—B.S.E., Henderson State Teachers College; C.S.W., Louisiana State University; M.S.W., Columbia University. (1960)

Mary Margaret Warren, *Education*—B.A., Ouachita College; M.A., Louisiana State University. (1960)

## SUPERVISORS

Oscar Barnes, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1959)

Christine C. Bowman, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute. (1959)

Katherine Butler, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., Columbia University. (1931-43) (1944)

Bobby Campbell, *Supervisor, Secondary Education*—B.S., M.S., Louisiana Polytechnic Institute. (1960)

Pauline Cassel, *Supervisor, Elementary Education*—A.B., M.Ed., Louisiana State University. (1952)

Martha Clingan, *Supervisor, Secondary Education*—B.A., Louisiana College; M.A., Louisiana State University. (1947)

Vera W. Colvin, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute. (1959)

Sibyl J. Edmunds, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1948-1952) (1953)

L. J. Garrett, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.E., Louisiana State University. (1951)

Mary Alice Garrett, *Supervisor, Secondary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1960)

Roberta H. Goodgoin, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute. (1959)

Robert Glenn Hanchey, *Supervisor, Secondary Education*—B.S., Southwestern Louisiana Institute; M.A., Louisiana State University. (1952)

Mary Bess Harris, *Supervisor, Elementary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1959)

Kendall Hearn, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.A., Northwestern State College. (1958)

Dorothy Hines, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1955)

Maggie Hinton, *Supervisor, Secondary Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1940)

Lurline W. Hogg, *Superisor, Elementary Education*—B.A., Louisiana Polytechnic Institute. (1961)

Ruth Johnson, *Supervisor, Secondary Education*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1947)

Edna Erle Kavanaugh,*Supervisor, Secondary Education*—B.S., Mississippi Southern; M.S., Indiana University. (1939-41) (1948) (1949)

Alex Laney, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.Ed., University of Arkansas. (1960)

Charlotte Lewis, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., Louisiana State University. (1949)

Laura Mae McCullin, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.E., Louisiana State University. (1953)

Sunshine M. Medica, *Supervisor, Elementary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1959)

Yvonne H. Oliver, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., University of Houston. (1959)

Bernice O'Neal, *Supervisor, Elementary Education*—B.A., Louisiana Polytechnic Institute; M.A., Colorado State Teachers College. (1940)

Emma Lou Owens, *Supervisor, Elementary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1959)

Morgan D. Peoples, *Supervisor, Secondary Education*—B.S., Northwestern State College; M.A., Louisiana State University. (1954)

Frances Maxine Pepper, *Supervisor, Elementary Education* —B.S., Delta State Teachers College; Ed.M., Boston University School of Education. (1944)

Laverne E. Pyburn, *Supervisor, Elementary Education*— B.A., M.A., Texas State College for Women. (1956)

V. Earvin Ryland, *Supervisor, Secondary Education*—B.S., Northwestern State College; M.S., George Peabory College. (1957)

Lucille R. Saunders, *Superisor, Elementary Education*—B.A., M.A., Louisiana Polytechnic Institute. (1959)

Myldred L. Simmons, *Librarian, A. E. Phillips School*—B.A., B.S., (L.S.) Louisiana State University. (1949)

Gertrude L. Simonton,*Supervisor, Elementary Education*— B.A., Louisiana Polytechnic Institute. (1961)

Thomas E. Stewart,*Supervisor, Secondary Education*—B.S., Louisiana State Normal College; M.A., Louisiana State University. (1950-1953) (1957)

Ann C. Tabarlet, *Supervisor, Elementary Education*—B.A., Louisiana College; M.A., Louisiana State University. (1959)

Murrie Lee Turnbow, *Supervisor, Secondary Education*— B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1953)

Ruby Wright, *Supervisor, Elementary Education—B.A.,* Louisiana Polytechnic Institute. (1959)

# SCHOOL OF EDUCATION

*C. T WOODARD, Dean*

## ACCREDITATION

The School of Education, one of six schools of Louisiana Polytechnic Institute approved by the Louisiana State Board of Education, is accredited by the Southern Association of Secondary Schools and Colleges. As an individual unit, it is a member of the American Association of Colleges for Teacher Education and of the American Association of Business Teachers. The School of Education is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel.

## HISTORY AND ORGANIZATION

The training of teachers began with the founding of Louisiana Polytechnic Institute in 1894. The Laboratory School, known as A. E. Phillips Elementary School, was created by the Legislature in 1916. On November 12, 1925, the State Board of Edumation approved teacher education curricula, and on March 15, 1926, the board recognized the reorganization of these curricula. Education was elevated to the level of a department by the State Board on May 18, 1933, and on April 26 of the following year the board authorized the organization of a separate school. In 1948, physical education was transferred from the School of Arts and Sciences to the School of Education as a department. In 1955, the offerings in Education were divided, forming departments of elementary and secondary education, and the Department of Special Education was created to service schools in the parishes of Bienville, Claiborne, Jackson, Lincoln, Union and Webster to train teachers in working with the various areas of exceptionality. Bossier Parish was added to the work area in 1959. By action of the State Board of Education on December 17, 1957, January 31, 1958, April 3, 1958, and April 18, 1961 authorization was given to grant the Master of Arts degree in Art education, Elementary education, English education, Music education, Social Science education and Speech education, and the Master of Science degree in Biology education, Business education, Chemistry education, Mathematics education, Physics education and Health and Physical education.

## PURPOSES

From its founding in 1894, one of the purposes of Louisiana Polytechnic Institute has been the preparation of teachers for the schools of Louisiana. Through the School of Education, Louisiana Polytechnic Institute offers its fullest cooperation with the State Board of Education in giving to the State professionally educated teachers. The faculty of the School of Education attempts to foster in students a desire to seek useful knowledge in the fields of man's endeavor and an appreciation for the aethetic; to assist them in understanding man's relationship to man in small groups and in the world community; to aid them in developing as well rounded individuals with desirable attitudes and teaching skills; to help them see the necessity of service to others; and to prepare teachers to fill the many positions in the schools of Louisiana.

## ADMISSION TO SCHOOL OF EDUCATION

Graduates from high schools accredited by the State Department of Education of Louisiana or the Southern Association of Colleges and Secondary Schools who meet the general requirements are unconditionally admitted to the School of Education. However, the School of Education reserves the right to drop a student who has charcteristics or disabilities that cause us to doubt his ability to attain success as a teacher.

Each student will be given an advisor who will work with him throughout the student's career in education or Tech campus. Any time the advisor or another faculty member becomes conscious of a factor that may cause the student to be an inferior teacher, a special committee will be formed to study the case. This committee will be composed of the advisor, another education faculty member and a third faculty member who is not in the School of Education.

The following factors will be taken into consideration while a committee is determining whether a student should be allowed to enter or remain in education: appearance, physical health, mental health, scholarship, punctuality, responsibility, written communication, oral communication, and professional interest.

Students transferring from other schools of Louisiana Polytechnic Institute or from other colleges will be admitted only after a careful study of the records and may be rejected because of unsatisfactory scholastic achievement, and/or personality characteristics. All transfer students admitted are on a provisional status for at least one semester.

## SPECIAL EDUCATION CENTER

The Special Education Center is a service unit in the School of Education organized to aid public schools in meeting the needs of exceptional children in the parishes of Bienville, Bossier, Claiborne, Jackson, Lincoln, Union and Webster. These needs are met through diagnostic services for children, consultation and in-service training for teachers. The Center utilizes the team approach in its operation, integrating the disciplines of education, psychology, social work and speech. Some consultation is offered to college students.

The Center, as the Department of Special Education, cooperates with other departments of the college to provide courses in the education of exceptional children. Teacher certification in education of the mentally retarded may be obtained.

## DEGREES

Students who complete a four-year curriculum in the School of Education are granted the bachelor's degree and are awarded by the State Department of Education a certificate of eligibility to teach their specialties in the schools of Louisiana.

The Degree of Bachelor of Science is awarded to students who finish the curricula in Business education, Mathematics education, Science education, and Physical education. The degree of Bachelor of Arts is awarded to students finishing all other undergraduate curricula. The M.A. degree is awarded in the following areas: Art education, elementary, English, music, social sciences, and speech education. The M.S., degree is awarded in the following: biology, chemistry, physics, mathematics, and physical education.

## MINORS

In all undergraduate curricula except Art, Music and Elementary Grades the student will select a minor teaching field and meet the certification requirements therein. A student majoring in Business Education—Accounting and Typing, or Shorthand and typing, shall have two minors, or a second major teaching field.

The specific course requirements for minors in the different fields are as follows: English, 401, 402, 501, 502, 632, and 9 hours of electives; French, 401, 402, 501, 502, 550, 551, and six* hours in the 600 and 700's; Library Science, 501, 502, 601, 602, 603, 604; Mathematics, 401, 402, 403, 540, and 541; Science, six hours in Biology, six hours in Chemistry, six

hours in Physics, and an additional six hours in Biology, Chemistry or Physics; Physical Education (Women), 403, 404, 430, 520, 530, 540, 550, 571, 572, 610, 613, 620, 621, 626, and Zoology 525; Physical Education (Men), four hours activity, 507, 604, 610, 620, 626, 704, and Zoology 525; Health and Safety, Physical Education 500, 600, 605, 610, 620, 621, 626, and Education 600, Zoology 525; Psychology, 501, 601, 607, 722 and 12 additional hours chosen with the consent of the advisor for psychology; Social Science, History 401, 402, 501, 502, 760, Political Science 501, Sociology 501, and Geography 503; Spanish, 401, 402, 501, 502, and 12* additional hours; Speech, 410, 500, 511, 610, 612, 615, 706; and Speech Correction, 610, 611, 622, 625, 711, 712, 713.

All students are required to earn a minimum of four semester hours in activity courses in physical education, and most curricula include four additional hours, including First Aid. The courses are designed to furnish recreation and to facilitate the development of physical fitness.

## STUDENT TEACHING

Students who are preparing to teach in the elementary grades will find available on the campus a well equipped and officered elementary school. In addition, approved public elementary schools in the City of Ruston will be used as student teaching facilities. For students who are preparing to teach in the high school, arrangements will be made in the Ruston High School or in other approved schools.

Applicants for student teaching must be approved by the Director of Student Teaching and the Dean of the School of Education. In addition to the course prerequisites for student teaching, all applicants must have a minimum of (a) a C average for all credits earned at Louisiana Tech, (b) a C average for all required courses in Education and Psychology, and (c) a C average for all courses in the subject matter field or fields in which student teaching is planned ("c" applies to secondary majors only).

For graduation from the School of Education, each student must have a minimum of (a) C average for all courses used to complete the requirements for a degree, (b) C average for all required courses in Education and Psychology and (c) C average for all courses in the subject matter field or fields in which the student is to be certificated ("c" applies to secondary majors only).

* 18 semester hours are sufficient if the freshmen courses are not taken for credit.

## ART CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 401, 411: Art Structure, Elementary Design | 2 | 2 | |
| Art 450, 451: Elementary Drawing | 2 | 2 | |
| Art 564A: Art Appreciation | 1 | | |
| Art 470: Elementary Water Color Painting | | 3 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 401, 402: History of the Western World | 3 | 3 | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| | 16 | 17 | 33 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 510, 570: Design, Oil Painting | 3 | 3 | |
| Art 550, 566: Advanced Drawing, Modern Painting | 3 | 3 | |
| English 501, 502: English and American Literature | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Zoology 400: Introductory, Botany 401, General | 4 | 4 | |
| | 17 | 17 | 34 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 511: Lettering | | 3 | |
| Art 540, 541: Craft Survey | 3 | 3 | |
| Art 610: Advanced Design | 3 | | |
| Art 650, 651: Life Drawing | 2 | 2 | |
| Education 500: Introduction to Education | | 3 | |
| Education 660: Teaching of Fine Arts | 3 | | |
| History 501, 502: United States History | 3 | 3 | |
| Phsical Education 500: Health and Safety; 621, First Aid | 4 | | |
| Physics or Chemistry | | 4 | |
| | 18 | 18 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 666, 667: History of Art | 3 | 3 | |
| Art Electives 6 hours from Art 640, Metal Crafts; Art 644, Weaving; or 646, Ceramics; and 3 hours from Art 670, 611: Advanced Oil Painting, Advanced Design, and Art 750, 751: Advanced Life Drawing) | 6 | 3 | |
| Education 713: Student Teaching | | 5 | |
| Education 712: Directed Student Teaching Experiences | 2 | | |
| Education 620: Materials and Methods of Teaching Content Subjects, or 606: Secondary Education | 3 | | |
| Psychology 505: Child Psychology, or 506: Adolescent Psychology | | 3 | |
| Electives; General Studies | 3 | 2 | |
| | 17 | 16 | 33 |
| Total semester hours in curriculum | | | 136 |

## FULL BUSINESS EDUCATION CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| English 401, 402: Composition | 3 | 3 |
| Freshman Orientation | 1 | |
| History 501, 502: United States History | 3 | 3 |
| Physical Education: Activity | 1 | 1 |
| Mathematics 419 and 420: Business Mathematics (3), | 3 | 3 |
| Office Administration 501, 502: Elementary and Instermediate | | |

| | | | |
|---|---|---|---|
| Typewriting | 2 | 2 | |
| Zoology 400: Introductory, Botany 401; General | 4 | 4 | |
| | 17 | 16 | 33 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Physics or Chemistry | | 4 | |
| Physical Education: Activity | 1 | 1 | |
| Psychology 504: Educational | | 3 | |
| Accounting 501, 502: Elements of Accounting | 3 | 3 | |
| Office Administration 503: Advanced Typewriting | 2 | | |
| Office Admistration 501, 502: Elementary and Intermediate Shorthand | 3 | 3 | |
| Electives (Minor) - English or Social Studies | 3 | | |
| | 15 | 17 | 32 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Business 645: Business Law | | 3 | |
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Educaton | | 3 | |
| Psychology 506: Adolescent | 3 | | |
| Accounting 611, 612: Int. Accounting | 3 | 3 | |
| Marketing 600: Principles of Marketing | | 3 | |
| Communications 605: Business Correspondence | | 3 | |
| Office Administration 603: Dictation and Transcription | 4 | | |
| Office Administration 607: Office Systems and Procedures I | | 2 | |
| General Business 508: Office Machines (Lab) | 1 | | |
| Economics 501, 502: Economic Principles and Problems | 3 | 3 | |
| | 17 | 17 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | 3 | | |
| Education 658: Materials and Methods in Business Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Office Administration 604: Advanced Dictation and Transcription | 4 | | |
| Office Administration 609: Office Systems and Procedures II | | 2 | |
| Communications 605: Business Correspondence | 3 | | |
| Electives (Minor); General Studies | 3 | 6 | |
| | 18 | 13 | 31 |
| Total semester hours in curriculum | | | 130 |

## BUSINESS EDUCATION CURRICULUM—ACCOUNTING AND TYPING

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Mathematics 419 and 420: Business Mathematics (3), | 3 | 3 | |
| Office Administration 501, 502: Elementary and Intermediate Typewriting | 2 | 2 | |
| Zoology 400: Introd., Botany 401: General | 4 | 4 | |
| | 17 | 16 | 33 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Physics or Chemistry | | 4 | |
| Physical Education: Activity | 1 | 1 | |
| Psychology 501, 504: General. Educational | 3 | 3 | |
| Accounting 501, 502: Elements of Accounting | 3 | 3 | |
| Office Administration 503: Advanced Typewriting | 2 | | |
| Economics 501, 502: Economic Principles and Problems | 3 | 3 | |
| | 15 | 17 | 32 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Psychology 506: Adolescent | 3 | | |
| Accounting 611, 612: Intermediate Accounting | 3 | 3 | |
| Marketing 600: Principles of Marketing | 3 | | |
| General Business 508: Office Machines (Lab) | 1 | | |
| Speech 675: Oral Communication | 2 | | |
| Business 645: Business Law | 3 | | |
| Electives* | | 10 | |
| | 18 | 16 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Didected Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | 3 | | |
| Education 658: Materials and Methods in Business Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Management 610: Principles of Management | | 3 | |
| Finance 612: Insurance 631, Business Law 646, or Management 680 | | 3 | |
| Electives*; General Studies | 10 | 2 | |
| | 18 | 13 | 31 |
| Total semester hours in curriculum | | | 130 |

*Second major of 30 hours or two minors required.

## BUSINESS EDUCATION CURRICULUM—SHORTHAND AND TYPING

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Mathematics 419 and 420: Business Mathematics (3), | 3 | 3 | |
| Office Administration 501, 502: Elementary and Iintermendiate Typewriting | 2 | 2 | |
| Zoology 400: Introd., Botany 401: General | 4 | 4 | |
| | 17 | 16 | 33 |

| Sophomore Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 |
| Physics or Chemistry | | 4 |
| Physical Education: Activity | 1 | 1 |
| Psychology 504: Educational | | 3 |
| Office Administration 506, 507: Elementary and Intermediate Shorthand | 3 | 3 |
| Office Administration 503: Advanced Typewriting | 2 | |
| Electives* | 8 | 3 |

| | | | |
|---|---|---|---|
| | 17 | 17 | 34 |

**Junior Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Business 645: Business Law | 3 | | |
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Psychology 506: Adolescent | | 3 | |
| Economics 501, 502: Economic Principles and Problems | 3 | 3 | |
| General Business 508: Office Machines (Lab) | | 1 | |
| Office Administration 603, 604: Dictation and Transcription and Advanced Dictation and Transcription | 4 | 4 | |
| Speech 675: Oral Communication | 2 | | |
| Electives* | 1 | 2 | |
| | 16 | 16 | 32 |

**Senior Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | 3 | | |
| Education 658: Materials and Methods in Business Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Marketing 600: Principles of Marketing | | 3 | |
| Office Administration 607, 609: Officice Systems and Procedures | 2 | 2 | |
| Communications 605: Business Correspondence | | 3 | |
| Electives*; General Studies | 8 | | |
| | 18 | 13 | 31 |
| Total semester hours in curriculum | | | 130 |

*Second Major of 30 hours required or two minors.

## ELEMENTARY CURRICULUM*

**Freshman Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 401, 402: Art Structure | 2 | 2 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Zoology 400: Introductory, Botany 401, General | 4 | 4 | |
| | 17 | 16 | 33 |

**Sophomore Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | | 3 | |
| English 501, 502: English and American Literature | 3 | 3 | |
| Geography 503, 525: Introductory, World | 3 | 3 | |
| Physical Education: 430, 520 Games of Low Organization, Rhythms (Girls): 561, American Folk Dances, plus 1 hour activity (Boys) | 1 | 1 | |
| Physical Education 500: Health and Safety | | 3 | |
| Physics 505: Descriptive Physics | 3 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Speech 410: Principles of Speech | 3 | | |
| | 16 | 16 | 32 |

**Junior Year**

| | 1st Sem. | 2nd Sem. |
|---|---|---|
| Art 501: Art Structure | | 2 |
| Education 620: Materials and Methods in Teaching Content Subjects | 3 | |
| Education 622: Materials and Methods in Arithmetic | | 3 |

| | | | |
|---|---|---|---|
| English 632: Advanced English Grammar | 3 | | |
| Library Science 501: Books and Materials for the Elementary School | 3 | | |
| Music 530, 531: School Music | 2 | 2 | |
| Physical Education 640: Materials and Methods in Health and Physical Education | 3 | | |
| Physical Education 621: First Aid | | 1 | |
| Political Science 501: National Government in the United States | | 3 | |
| Psychology 505: Child Psychology | | 3 | |
| Botany 525: General Science | 3 | | |
| Speech 630: Speech For Elementary Teachers | | 3 | |
| | 17 | 17 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 702: Measurement in Education | 3 | | |
| Education 623: Materials and Methods in Language Arts | 3 | | |
| Education 712: Directed Student Teaching Experiences | 2 | | |
| Education 713: Student Teaching | | 5 | |
| History 760: History of Louisiana | 3 | | |
| Elective (Geography 526-Upper Elementary); Gen. St. | 6 | 9 | |
| | 17 | 14 | 31 |
| Total semester hours in curriculum | | | 130 |

* Students who desire certification in nursery school may qualify by including Home Economics 614, 615 and 616 in their program of studies.

## ELEMENTARY-SECONDARY CURRICULUM*

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 401, 402: Art Structure | 2 | 2 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation 401 | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 405, 406: General Mathematics** | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Zoology 400: Introductory; Botany 401: General | 4 | 4 | |
| | 17 | 16 | 33 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | | 3 | |
| English 501, 502: English and American Literature | 3 | 3 | |
| Geography 503, 525: Introductory, World | 3 | 3 | |
| Physical Education: 430, 520, Games of Low Organization, Rhythms (Girls): 561, American Folk Dance, plus 1 hours activity (Boys) | 1 | 1 | |
| Physical Education 500: Health and Safety | | 3 | |
| Physics 505: Descriptive Physics*** | 3 | | |
| Physics 506 or Botany 525: Descriptive Physics; General Science | | 3 | |
| Psychology 501, 504; General, Educational | 3 | 3 | |
| Speech 410: Principles of Speech | 3 | | |
| | 16 | 19 | 35 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 606: Secondary Education | | 3 | |
| Education 622, 623: Materials and Methods in Arithmetic; Language Arts | 6 | | |
| Education 712 or 715 (at level of first student teaching): Directed Student Teaching Experiences | | 2 | |

| | | | |
|---|---|---|---|
| English 632: Advanced English Grammar | | 3 | |
| Library Science 502: Books and Materials for Adolescents | | 3 | |
| Music 530: School Music | 2 | | |
| Physical Education 640: Materials and Methods in Health and Physical Education | | 3 | |
| Physical Education 621: First Aid | 1 | | |
| Political Science 501: National Government in the United States | 3 | | |
| Psychology 505, 506: Child; Adolescent | 3 | 3 | |
| Elective in Secondary major | 3 | 1 | |
| | 18 | 18 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 702: Measurement in Education | 3 | | |
| Education : Materials and Methods in Secondary Field of Specialization | | 3 | |
| Education 713, 716: Student Teaching | 5 | 5 | |
| History 760: History of Louisiana | 3 | | |
| Speech 630: Electives in Secondary Field; Gen. St. | 3 | 6 | |
| | 14 | 14 | 28 |
| Total semester hours in curriculum | | | 132 |

*This curriculum is designed for students who are uncertain as to the school level at which they want to work, upper elementary or secondary, and to give special training for students who desire to work at the junior high school level. The graduate of this curriculum will be able to handle a "block" assignment in a junior high school or to handle all the work of grades 4-8, inclusive. If the student selects mathematics or science as the secondary area of specialization, more than 132 hours should be earned.

**Students who desire certification in mathematics will follow the program for minors in that field.

***If science is chosen as the field of specialization at the secondary level, 4 semester hour courses in physics or chemistry should be selected.

## ENGLISH CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410: Principles of Speech | | 3 | |
| Zoology 400: Introductory; Botany 401, General | 4 | 4 | |
| Elective in minor subject | 3 | 3 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Physics or Chemistry | 4 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Elective | 3 | 6 | |
| | 17 | 16 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Education 606: Secondary Education | | 3 |
| English 718, 722: Shakespeare, The English Language | 3 | 3 |
| English 632: Advanced English Grammar | | 3 |

| | | | |
|---|---|---|---|
| Library Science 502: Books and Materials for the Adolescent Child | 3 | | |
| Library Science 603: Library and the Curriculum | | 3 | |
| Physical Education 500: Health and Safety Education | 3 | | |
| Physical Education 621: First Aid | | 1 | |
| Social Science: Economics, Geography, Political Science, Sociology (Selected with advice of department head) | 3 | 3 | |
| Elective in minor subject | 3 | | |
| | 18 | 16 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | | 3 | |
| Education 650: Materials and Methods in English | 3 | | |
| Education 716: Student Teaching | | 5 | |
| English: Senior College English | 6 | 3 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Elective; General Studies | | 3 | |
| | 17 | 14 | 31 |
| Total semester hours in curriculum | | | 130 |

## FRENCH CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General, Zoology 400: Introductory | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| French 401, 402: Elementary French | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410: Principles of Speech | | 3 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| French 501, 502: Intermediate French | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physics or Chemistry | 4 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Physical Education 500: Health and Safety Education | | 3 | |
| | 17 | 16 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| English 722: The English Language | 3 | | |
| French 600: Phonetics and Oral Reading | | 3 | |
| French 601-602: French Conversation and Composition | 3 | 3 | |
| Political Science 501: National Government in the United States, or 603: State Government and Administration in the United States | | 3 | |
| Psychology 506: Adolescent Psychology | | 3 | |
| Sociology 501: Principles and Elements of Sociology | 3 | | |
| Elective | 6 | 3 | |
| | 18 | 18 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | |
| Education 702: Measurement in Education | | 3 |
| Education 651: Materials and Methods of Modern Language | 3 | |

| | | | |
|---|---|---|---|
| Education 716: Student Teaching | | 5 | |
| French 620-621: Survey of French Literature, and three additional hours in courses numbered 600 and above | 6 | 3 | |
| Physical Education 621: First Aid | 1 | | |
| Elective; General Studies | 4 | 2 | |
| | 16 | 13 | 29 |
| Total semester hours in curriculum | | | 130 |

## HEALTH AND PHYSICAL EDUCATION CURRICULUM FOR MEN

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 401, 402: College Algebra, Trigonometry or 405, 406: General Mathematics* | 3 | 3 | |
| Physical Education 401, 402: Sports Activities or 406; Corrective Physical Education | 1 | 1 | |
| Physical Education 408: Tumbling, Pyramids, and Apparatus | | 1 | |
| Zoology 400: Introductory, Botany 401: General | 4 | 4 | |
| Electives | 3 | 3 | |
| | 15 | 15 | 30 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education 501 or 502: Sport Activities and 561: American Folk Dance | 1 | 1 | |
| Physical Education 500: Health and Safety Education | 3 | | |
| Physical Education 507: Elementary Instruction in Minor Sports | | 2 | |
| Physical Education 610: History and Principles | 3 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Speech 410: Principles of Speech | | 3 | |
| Electives | | 2 | |
| | 16 | 17 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 606: Secondary Education | | 3 | |
| Education 500: Introduction to Education | 3 | | |
| Physical Education 604: Organization and Administration of Intramural Sports | 3 | | |
| Physical Education 605: Methods and Materials in Health Education | | 3 | |
| Physical Education 626: Kinesiology | | 3 | |
| Physical Education 704: Recreation | 3 | | |
| Physics 505: Descriptive Physics | 3 | | |
| Zoology 520: Personal and Community Hygiene and Sanitation | | 3 | |
| Zoology 525: Human Anatomy and Physiology | 3 | | |
| Electives | 3 | 5 | |
| | 18 | 17 | 35 |

| Senior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | |
| Education 702: Measurement in Education | 3 | |
| Education 657: Materials and Methods of Health and Physical Education | | 4 |
| Education 716: Student Teaching | | 5 |

| | | | |
|---|---|---|---|
| Political Science 501: National Government in the United States | | 3 | |
| Physical Education 620: Organization and Administration of Physical Education | 2 | | |
| Physical Education 621, 622: First Aid, Instructor's Course in First Aid | | 2 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Sociology 501: Principles of Sociology | 3 | | |
| Electives; General Studies | 5 | | |
| | 18 | 14 | 32 |
| Total semester hours in curriculm | | | 130 |

*If math is selected as minor, math 401, 402, etc. should be taken.

## HEALTH AND PHYSICAL EDUCATION CURRICULUM FOR WOMEN

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General; Zoology 400: Introduction | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education 403, 404: Team Sports | 1 | 1 | |
| Physical Education 540: Folk Dance | 1 | | |
| Physical Education 550: Tumbling | | 1 | |
| Electives | | 1 | |
| | 16 | 16 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Physical Education 430: Games of Low Organization | 1 | | |
| Physical Education 500: Health and Safety Education | | 3 | |
| Physical Education: 421; 580; 581 or 582: Recreation Sports; Swimming | 1 | 1 | |
| Physical Education 530: Fundamentals of Modern Dance | | 1 | |
| Physical Education 571: Tennis | 1 | | |
| Physical Education 572: Badminton | 1 | | |
| Physical Education 610: History and Principles of Physical Education | 3 | | |
| Speech 410: Principles of Speech | 3 | 3 | |
| Zoology 520: Personal and Community Hygiene and Sanitation | | 3 | |
| Electives | 2 | | |
| | 18 | 17 | 35 |

| Junior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Art 564: Art Appreciation or Music 630: Music Appreciation | | 2 |
| Education 500: Introduction to Education | 3 | |
| Education 606: Secondary Education | | 3 |
| Political Science 501: National Government in U.S. | 3 | |
| Physics 505: Descriptive | 3 | |
| Physical Education 613: Techniques in Team Sports | | 3 |
| Physical Education 620: Organization and Administration of Health and Physical Education | 2 | |
| Physical Education 626: Applied Anatomy and Kinesiology | | 3 |
| Physical Education 620: Advanced Methods of Teaching Rhythm | | 1 |
| Sociology 501: Principles of Sociology | | 3 |

| | | | |
|---|---|---|---|
| Zoology 525: Human Anatomy and Physiology | 3 | | |
| Electives: | | 2 | |
| Psychology 506: Adolescent | 3 | | |
| | 17 | 17 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | | 3 | |
| Education 659: Materials and Methods of Physical Education | | 4 | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 605: Methods and Materials in Health Education | 3 | | |
| Physical Education 621 and 622: First Aid | 2 | | |
| Electives; General Studies | 9 | 1 | |
| | 16 | 13 | 29 |
| Total Semester Hours in Curricutum | | | 130 |

## HEALTH AND SAFETY CURRICULUM FOR MEN

| FRESHMAN YEAR | Semester Hours | | |
|---|---|---|---|
| English 401. 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 401, 402: College Algebra, Trigonometry or 405, 406: General Mathematics | 3 | 3 | |
| Physical Education 401, 402: Sport Activities or 406: Corrective Physical Education | 1 | 1 | |
| Physical Education 408: Tumbling, Pyramids and Apparatus | | 1 | |
| Zoology 400: Introductory; Botany 401, General | 4 | 4 | |
| Electives | 3 | 3 | |
| | 15 | 15 | 30 |

| SOPHOMORE YEAR | Semester Hours | | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education 501, 502: Sport Activities | 1 | 1 | |
| Physical Education 500: Health and Safety Education | 3 | | |
| Physical Education 507: Elementary Instruction in Minor Sports | | 2 | |
| Physical Education 610: History and Principles | 3 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Speech 410: Principles of Speech | | 3 | |
| Electives | | 2 | |
| | 16 | 17 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Physical Education 604: Organization and Administration of Intramural Sports | 3 | | |
| Physical Education 605: Methods and Materials in Health Education | | 3 | |
| Physical Education 626: Kinesiology | | 3 | |
| Physical Education 704: Recreation | 3 | | |
| Physics 505: Descriptive | 3 | | |
| Sociology 501: Principles of Sociology | | 3 | |
| Zoology 520: Personal and Community Hygiene and Sanitation | | 3 | |
| Zoology 525: Human Anatomy and Physiology | 3 | | |
| Physical Education 600: Safety Education | | 2 | |
| Electives | 4 | | |
| | 18 | 17 | 35 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 600: Driver Education & Traffic Safety | 2 | | |
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 657: Materials and Methods of Health and Physical Education | | 4 | |
| Education 702: Measurement in Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Political Science 501: National Government in the United States | | 3 | |
| Physical Education 620: Organization and Administration of Physical Education | 2 | | |
| Physical Education 621: First Aid | | 1 | |
| Physical Education 622: Instructor's Course in First Aid | | 1 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Physical Education 705: Athletic Injuries | 2 | | |
| Electives; General Studies | 4 | | |
| | 18 | 14 | 32 |
| Total semester hours in curriculm | | | 130 |

## HEALTH AND SAFETY CURRICULUM FOR WOMEN

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General; Zoology 400: Introductory | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education 403, 404: Team Sports | 1 | 1 | |
| Physical Education 540: Folk Dance | 1 | | |
| Physical Education 550: Tumbling | | 1 | |
| Elective | | 1 | |
| | 16 | 16 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Physical Education 430: Games of Low Organization | 1 | | |
| Physical Education 500: Health and Safety Education | | 3 | |
| Physical Education 421; 580; 581 or 582: Recreation Sports; Swiming | 1 | 1 | |
| Physical Education 530: Fundamentals of Modern Dance | | 1 | |
| Physical Education 571: Tennis | 1 | | |
| Physical Education 572: Badminton | 1 | | |
| Physical Education 610: History and Principles | 3 | | |
| Speech 410: Principles of Speech | | 3 | |
| Electives | 3 | 2 | |
| | 16 | 16 | 32 |

| Junior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Art 564: Art Appreciation or Music 630:Music Appreciation | 2 | |
| Education 500: Introduction to Education | 3 | |
| Education 600: Driver Education and Highway Safety | | 2 |
| Education 606: Secondary Education | | 3 |
| Political Science 501: National Government in the United States | 3 | |
| Physics 505: Descriptive | 3 | |
| Physical Education 600: Safety Education | 2 | |
| Physical Education 613: Techniques in Team Sports | | 3 |
| Physical Education 670: Advanced Methods of Teaching Rhythms | | 1 |

| | | | |
|---|---|---|---|
| Sociology 501: Principles of Sociology | | 3 | |
| Zoology 520: Personal and Community Hygiene and Sanitation | 3 | | |
| Zoology 525: Anatomy and Physiology | | 3 | |
| Psychology 506: Adolescent | | 3 | |
| Electives: | | 3 | |
| | 16 | 18 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 659: Materials and Methods of Physical Education | | 3 | |
| Education 702: Measurement in Education | | 3 | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 605: Methods and Materials in Health Education | 3 | | |
| Physical Education 620: Organization and Administration of Health and Physical Education | 3 | | |
| Physical Education 621, 622: First Aid, Instructor's Course in First Aid | 2 | | |
| Physical Education 626: Kinesiology | 3 | | |
| Electives; General Studies | 4 | 3 | |
| | 17 | 15 | 32 |
| Total semester hours in curriculm | | | 130 |

## MATHEMATICS CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 401, 402, 403: College Algebra I, Trigonometry, Plane and Solid Geometry | 3 | 6 | |
| Physical Education: Activity | 1 | 1 | |
| Zoology 400: Introductory, Botany 401, General | 4 | 4 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Math 540: Analytic Geometry and Calculus I | 6 | | |
| Math 541: Analytic Geometry and Calculus II | | 6 | |
| Physical Education: Activity | 1 | 1 | |
| Political Science 501: National Government in the United States | | 3 | |
| Psychology 501: General | 3 | | |
| Speech 410: Principles of Speech | 3 | | |
| Sociology 501: Principles of Sociology | | 3 | |
| Elective: | 2 | | |
| | 18 | 16 | 34 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Psychology 504: Educational | 3 | | |
| Mathematics 616(3) Solid Analytic Geometry, 618(3) Advanced College Algebra | 3 | 3 | |
| Physical Education 500, 621: Health and Safety Education, First Aid | 3 | 1 | |
| Physics 505, 506: Descriptive* | 3 | 3 | |
| Electives: | 8 | 3 | |
| | 18 | 16 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 656: Materials and Methods in Mathematics | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Mathematics (Above 700) | | 3 | |
| Mathematics 701: College Geometry | | 3 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Electives; General Studies | 8 | 3 | |
| | 16 | 14 | 30 |
| Total Semester Hours in Curriculum | | | 130 |

*When certification in physics is desired as minor field, 509 and 510 should be taken.

## MUSIC EDUCATION CURRICULUM

(For Combined Certification)

After completing this curriculum, the graduate will be entitled to receive state certification to teach vocal and instrumental music (excluding Piano) in the schools.

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Ensemble | 1 | 1 | |
| Freshman Orientation | 1 | | |
| History 501: United States History | | 3 | |
| Major Instrument 452, 453: String | 2 | 2 | |
| Mathematics 401, 402: Algebra, Trigonometry or 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Piano 452, 453: Freshman Piano | 2 | 2 | |
| Theory 410, 411: Fundamentals of Music | 3 | 3 | |
| Voice 432, 433: Class Voice or Private Voice | 2 | 2 | |
| | 18 | 20 | 38 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| Ensemble | 1 | 1 | |
| History 502: United States History | 3 | | |
| Major Instrument 552, 553: String | 2 | 2 | |
| Minor Instrument 452 | 2 | | |
| Music 501, 502: 1st and 2nd term Harmony | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Social Science Economics, Sociology, Geography, or Political Science) | | 3 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Piano 552 | | 2 | |
| Voice 552, 553: Sophomore Voice | 2 | 2 | |
| | 20 | 20 | 40 |

| Junior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Education 500: Introduction to Education | | 3 |
| Ensemble | 1 | 1 |
| Major Instrument 452, 453: Wind | 2 | 2 |
| Minor Instrument | 2 | 2 |
| Music 724, 725: Conducting | 1 | 1 |
| Music 620, 621: History and Appreciation | 3 | 3 |
| Music 601, 602: 3rd and 4th term Harmony | 3 | 3 |
| Music Education 660: Methods in Elementary Grades | 2 | |

| | | | |
|---|---|---|---|
| Percussion 452 | | 2 | |
| Physics 505, 506: Descriptive | 3 | 3 | |
| Psychology 505: Child Psychology or 506: Adolescent Psychology | 3 | | |
| | 20 | 20 | 40 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music Electives | 4 | 1 | |
| Botany 640: Economic Botany | | 3 | |
| Ensemble | 1 | 1 | |
| Education 713: or 716: Student Teaching | | 5 | |
| Education 606: Secondary Education | | 3 | |
| Major Instrument 551: Wind | 3 | | |
| Music Education 760: Problems, Materials, and Administration (High School) | 3 | | |
| Music Theory (510, 520, 640, 680, or 701) (Individual Requirements) | 3 | | |
| Music Education 774: Seminar | | 1 | |
| Orchestration | | 3 | |
| Social Science (Economics, Sociology, Geography or Political Science) | | 3 | |
| Zoology 520: Personal and Community Hygiene and Sanitation | 3 | | |
| General Studies | | 1 | |
| | 20 | 18 | 38 |
| Total semester hours in curriculum | | | 156 |

To meet state certification for the combination certificate (band, orchestral and vocal music) eight more hours in applied music are required. These may be taken in summer sessions; or the overall programs may be distributed in a manner to include one or two summer sessions.

## MUSIC EDUCATION CURRICULUM

(For Single Certification)

After completing the curriculum below the graduate will be eligible for certification from the State Department of Education to teach piano, vocal, or instrumental music in the schools, depending upon the applied music elected. Upon entrance the student will declare the particular certification desired and the appropriate courses will then be entered upon his advisory sheet in the Music Department Office.

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| Ensemble | 1 | 1 | |
| Freshman Orientation | 1 | | |
| History 501: United States History | | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry, or Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Theory 410, 411: Fundamentals of Music | 3 | 3 | |
| | 16 | 18 | 34 |

| Sophomore Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Applied Music | 2 | 4 |
| English 501, 502: English and American Literature | 3 | 3 |
| Ensemble | 1 | 1 |
| History 502: United States History | 3 | |
| Music 501, 502: 1st and 2nd term Harmony | 3 | 3 |
| Physical Education: Activity | 1 | 1 |

| | | | |
|---|---|---|---|
| Physics 505, 506: Classical and Modern Physics | 3 | 3 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| | 19 | 18 | 37 |

**Junior Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 3 | 5 | |
| Education 500: Introduction to Education | | 3 | |
| Ensemble | 1 | 1 | |
| Music 601,602: 3rd and 4th term Harmony | 3 | 3 | |
| Music 620, 621: History and Appreciation | 3 | 3 | |
| Music Education 660: Music Methods in Elementary Grades | 2 | | |
| Music Education 724: Conducting | | 1 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Social Science (Economics, Sociology, Geography or Political Science) | 3 | 3 | |
| | 18 | 19 | 37 |

**Senior Year**

| | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Applied Music | 5 | 3 | |
| Botany 640: Economic Botany | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Education 713: or 716: Student Teaching | | 5 | |
| Ensemble | 1 | 1 | |
| Music 725: Conducting | 1 | | |
| Music Education 774: Seminar | | 1 | |
| Music (from 510, 520, 640, 701) | 3 | | |
| Music 760: Problems, Materials and Administration (High School) | 3 | | |
| Music (from 680, 701, or 712) | | 3 | |
| Zoology 520: Personal and Community Hygiene and Sanitation | | 3 | |
| General Studies | | 1 | |
| | 19 | 17 | 36 |
| Total semester hours in curriculum | | | 144 |

Refer to the distribution of work required in applied music as listed below.

Note: Those pursuing this curriculum may either give a complete recital or appear on a joint recital.

For those desiring certification to teach music, the distribution of work taken in applied music must be in accordance with one or more of the plans listed below. The plan, or plans, pursued will be determined by individual desires for certification. These plans are designed to meet requirements classified in bulletin No. 746, State Dept. of Education of Louisiana, 1956.

INSTRUMENTAL CERTIFICATE

| | Semester Hours | |
|---|---|---|
| Major (wind) | 8-14 | |
| Major (string) | 8-14 | |
| Minor Instruments | 4-8 | |
| Piano | 4-8 | |
| Total required | | 30 |

VOCAL CERTIFICATE

| | Semester Hours | |
|---|---|---|
| Vocal | 18-22 | |
| Piano (Organ) | 6-12 | |
| Instruments | 2-6 | |
| Total Required | | 30 |

## PIANO CERTIFICATE

| | Semester Hours |
|---|---|
| Piano | 18-22 |
| Voice | 6-12 |
| Instruments | 2-6 |
| Total required | 30 |

## VOCAL AND INSTRUMENTAL CERTIFICATE

| | Semester Hours |
|---|---|
| Voice | 8-16 |
| Major Instrument (Wind) | 8-16 |
| Major Instrument (String) | 8-16 |
| Minor Instruments (Brass, Woodwind and Strings) | 8-12 |
| Percussion | 2-6 |
| Piano | 6-12 |
| Total required | 50 |

# SCIENCE CURRICULUM

## BIOLOGY, CHEMISTRY and GENERAL

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: United States History | 3 | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Zoology 400, Introduction; 501, Invertebrate, or 401, 402, General | 4 | 4 | |
| Speech 410: Principles of Speech | | 3 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Physical Education 500: Health and Safety | | 3 | |
| English 501, 502: English and American Literature | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Psychology 501: General | 3 | | |
| Chemistry 401, 402: General | 4 | 5 | |
| Zoology 502: Vertebrate or 731, Field (3) | 4 | | |
| Botany 401: General | | 4 | |
| | 15 | 16 | 31 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction | | 3 | |
| Education 606: Secondary Education | | 3 | |
| Physics 505, 506: Descriptive or 509(4), 510(4), Elementary | 3 | 3 | |
| Bacteriology 501: General | | 3 | |
| Botany 520: Plant Physiology | 3 | | |
| Chemistry 505: Analytical | | 4 | |
| Social Sciences, 3 hours elective excluding U. S. History | 3 | | |
| Electives | 2 | 4 | |
| | 17 | 17 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | 3 | | |
| Education 652: Methods in High School Science | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 621: First Aid | 1 | | |
| Psychology 506: Adolescent | 3 | | |
| Chemistry 601: Organic; 603: Organic Lab. | | 4 | |
| Electives, including 3 in Social Studies; General Studies | 6 | 6 | |
| | 18 | 15 | 33 |

Total semester hours in curriculum 130

## SCIENCE CURRICULUM

### BIOLOGY, PHYSICS and GENERAL*

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 401, 402: College Algebra, Trigonometry | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| History 501, 502: United States History | 3 | 3 | |
| Speech 410: Principles of Speech | | 3 | |
| Zoology 400, 501: Introduction; Invertebrate or 401, 402 | 4 | 4 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General | 4 | | |
| English 501, 502: English and American Literature | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Physics 509, 510: Elementary | 4 | 4 | |
| Psychology 501: General | | 3 | |
| Mathematics 403, 540: Plane and Solid Geometry; Analytic Geometry and Calculus I | 3 | 6 | |
| Social Science, 3 hours elective excluding U.S. History | 3 | | |
| | 18 | 17 | 35 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Chemistry 401, 402: General or 407(3) and 408(3), General | 4 | 5 | |
| Mathematics 541: Analytic and Calculus II | 6 | | |
| Physics 630, 631: Modern Physics | 4 | 4 | |
| Psychology 504: Educational | | 3 | |
| Electives | | 3 | |
| | 17 | 18 | 35 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 652: Methods in High School Science | | 3 | |
| Education 702; Measurement in Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 621: First Aid | 1 | | |
| Psychology 506: Adolescent | 3 | | |
| Social Science, excluding U.S. History | 6 | | |
| Botany 510 or 520: Taxonomy of Flowering Plants; Plant Physiology | | 3 | |
| Electives; General Studies | | 2 | |
| | 15 | 13 | 28 |

Total semester hours in curriculum ..... 130

* In order to complete this curriculum, the student will find it necessary to minor in math.

## SCIENCE CURRICULUM

### PHYSICS, CHEMISTRY AND GENERAL*

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: U. S. History | 3 | 3 | |
| Mathematics 401, 402: College Algebra, Trigonometry | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410: Principles of Speech | | 3 | |
| Zoology 400: General; Botany 401: Introduction | 4 | 4 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Chemistry 401, 402: General | 4 | 4 or 5 | |
| Mathematics 403, 540: Plane and Solid Geometry; Analytic Geometry and Calculus I | 3 | 6 | |
| Education 500: Introduction | | 3 | |
| Psychology 501: General | 3 | | |
| Physical Education: Activity | 1 | 1 | |
| Physics 509, 510: Elementary Physics | 4 | 4 | |
| Social Science elective (Excluding U.S. History) | 3 | | |
| | 18 | 18 or 19 | 36 or 37 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Chemistry 505: Quantitative Analysis | | 4 | |
| Education 606: Secondary Education | | 3 | |
| English 501, 502: English, American Literature | 3 | 3 | |
| Mathematics 541: Analytic Geometry and Calculus II | 6 | | |
| Physics 630, 631: Modern | 4 | 4 | |
| Psychology 506: Adolescent | | 3 | |
| Psychology 504: Educational | 3 | | |
| Elective | | 3 | |
| | 16 | 17 | 33 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Chemistry 520: Organic, plus 4 semester hours in Science | 4 | 4 | |
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 652: Methods in High School Science | | 3 | |
| Education 702: Measurement in Education | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 621: First Aid | 1 | | |
| Electives; General Studies | 6 | 1 | |
| | 16 | 13 | 29 |
| Total semester hours in curriculum | | | 130 |

* In order to complete this curriculum, the student will find it necessary to minor in math.

## SOCIAL SCIENCE CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 401, 402: History of the Western World | 3 | 3 | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410: Principles of Speech | | 3 | |
| Zoology 400: Introductory; Botany 401: General | 4 | 4 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Physics or Chemistry | 4 | | |
| Physical Education: Activity | 1 | 1 | |
| Geography 503: Introductory Geography | | 3 | |
| Electives | 3 | 3 | |
| | 17 | 16 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. |
|---|---|---|
| Economics 501: Economic Principles and Problems | | 3 |
| Education 500: Introduction to Education | 3 | |
| Education 606: Secondary Education | | 3 |

| | | | |
|---|---|---|---|
| Sociology 501: Principles and Elements of Sociology | 3 | | |
| Library Science 502: Books and Materials for the Adolescent Child | 3 | | |
| Physical Education 500: Health and Safety Education | | 3 | |
| Political Science 501: National Government in the United States | 3 | | |
| Political Science 604: The Government of Louisiana | | 3 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Elective | 3 | 6 | |
| | 18 | 18 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | 3 | | |
| Education 653: The Teaching of Social Science | | 3 | |
| Education 716: Student Teaching | | 5 | |
| History 607: Economic History of the United States, or 609: Economic Europe in the Machine Age; and 760: History of Louisiana | 3 | 3 | |
| Library Science 603: Library and the Curriculum | 3 | | |
| Physical Education 621: First Aid | 1 | | |
| Electives; General Studies | 5 | 1 | |
| | 17 | 12 | 29 |
| Total semester hours in curriculum | | | 130 |

## SPANISH CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General, Zoology 400: Introductory | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410: Principles of Speech | | 3 | |
| Spanish 401, 402: Elementary Spanish | 3 | 3 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Physics or Chemistry | | 4 | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Spanish 501, 502: Intermediate Spanish | 3 | 3 | |
| | 13 | 17 | 30 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction | 3 | | |
| Education 606: Secondary Education | | 3 | |
| English 722: The English Language | 3 | | |
| Physical Education 500: Health and Safety Education | | 3 | |
| Psychology 506: Adolescent | | 3 | |
| Political Science 501: National Government in the United States | 3 | | |
| Sociology 501: Principles and Elements of Sociology | | 3 | |
| Spanish 601, 602: Conversation and Composition | 3 | 3 | |
| Spanish—three hours in courses in 600's or above | 3 | | |
| Electives | 3 | 3 | |
| | 18 | 18 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | | 3 | |
| Education 651: Materials and Methods of Modern Language | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 621: First Aid | | 1 | |
| Spanish—nine hours in courses in 600's or above | 6 | 3 | |
| Electives; General Studies (1) | 6 | 3 | |
| | 17 | 15 | 32 |
| Total semester hours in curriculum | | | 130 |

## SPEECH CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Botany 401: General, Zoology 400: Introductory | 4 | 4 | |
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| Mathematics 405, 406: General Mathematics | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Speech 410, 511: Principles of Speech | 3 | 3 | |
| Elective | | 3 | |
| | 15 | 17 | 32 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 501, 502: English and American Literature | 3 | 3 | |
| History 501, 502: United States History | 3 | 3 | |
| Physical Education: Activity | 1 | 1 | |
| Physics or Chemistry | 4 | | |
| Psychology 501, 504: General, Educational | 3 | 3 | |
| Speech 753, 615: Public Speaking, Oral Interpretation of Literature | | 6 | |
| Speech 500: Discussion and Debate | 3 | | |
| | 17 | 16 | 33 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 500: Introduction to Education | 3 | | |
| Education 606: Secondary Education | | 3 | |
| Library Science 502: Books and Materials for the Adolescent Child | 3 | | |
| Library Science 603: Library and the Curriculum | | 3 | |
| Physical Education 500: Health and Safety Education | 3 | | |
| Social Science: (Economics, Sociology, Geography, Political Science) | 3 | 3 | |
| Speech 706: Play Production, plus 3 hours in speech | 3 | 3 | |
| Elective | 2 | 5 | |
| | 17 | 17 | 34 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 715: Directed Student Teaching Experiences | 2 | | |
| Education 702: Measurement in Education | | 3 | |
| Education 654: Materials and Methods in Speech | 3 | | |
| Education 716: Student Teaching | | 5 | |
| Physical Education 621: First Aid | | 1 | |
| Psychology 506: Adolescent Psychology | 3 | | |
| Speech 610: Speech Correction, plus 3 hours of speech | 3 | 3 | |
| Free Elective; General Studies | 5 | 3 | |
| | 16 | 15 | 31 |
| Total semester hours in curriculum | | | 130 |

# SPEECH AND HEARING THERAPY CURRICULUM

| Freshman Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| English 401, 402: Composition | 3 | 3 | |
| Freshman Orientation | 1 | | |
| History 501, 502: American | 3 | 3 | |
| Mathematics 405, 406; General | 3 | 3 | |
| Speech 410, 511: Principles | 3 | 3 | |
| Zoology 400: Introduction; Botany 401; General | 4 | 4 | |
| Physical Education: Activity | 1 | 1 | |
| | 18 | 17 | 35 |

| Sophomore Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Art 401, 402: Art Structure | 2 | 2 | |
| English 501, 502: English, American | 3 | 3 | |
| Education 500, 620: Introduction; Materials and Methods in Elementary Grades | 3 | 3 | |
| Georgraphy 503: General | 3 | | |
| Physical Education 430. 520: Games of Low Organization; Rhythms | 1 | 1 | |
| Psychology 504, 505: Educational; Child | 3 | 3 | |
| Physics 505: Descriptive | | 3 | |
| Speech 610, 622: Introduction of Speech Correction; Phonetics | 3 | 3 | |
| | 18 | 18 | 36 |

| Junior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 622, 623, 654: Teaching Arithmetic; Materials and Methods in Language Arts; Materials and Methods in Speech | | 9 | |
| Speech 723: English Words and Idioms | 3 | | |
| Physical Education 640: Materials and Methods for Elementary Elementary School | | 3 | |
| Library Science 501: Children's Literature | | 3 | |
| Political Science 501: National Government in the U. S. | 3 | | |
| Psychology 714: Dynamics of Adjustment | 3 | | |
| Speech 611, 625: Speech Behavior in Human Relations; Audiology | 6 | | |
| Speech 711: Diagnostic Procedures | | 3 | |
| Music 530: School Music | 2 | | |
| Physical Education 621: First Aid | | 1 | |
| | 17 | 19 | 36 |

| Senior Year | 1st Sem. | 2nd Sem. | |
|---|---|---|---|
| Education 712, 713: Directed Student Teaching Experiences; Student Teaching | 2 | 5 | |
| Education 702: Measurement in Education | | 3 | |
| History 760: Louisiana | 3 | | |
| Psychology 604: Social | 3 | | |
| Psychology 755: Problems of the Exceptional Child | 3 | | |
| Speech 626: Hearing Conservation | 3 | | |
| Speech 712: Clinical Procedure | 3 | | |
| Speech 713: Rehabilitation of Speech defective | | 3 | |
| Zoology 525: Human Anatomy and Physiology | | 3 | |
| General Studies | | 1 | |
| | 17 | 15 | 32 |
| Total semester hours | | | 139 |

# School of Education

CLIFFORD T. WOODARD, DEAN

## DESCRIPTION OF COURSES

Courses numbered 400 are designed for freshmen, 500 courses are for sophomores, 600-700 courses are for juniors and seniors, and 800 courses are for graduate credit. Graduate students may take courses numbered in the 600 and 700 series with the approval of the student's adviser and the Dean of the School of Education.

### EDUCATION

**401: Orientation.** 0-1-1*. Required of all freshmen except engineers. The purpose of the course is four fold: First, to acquaint freshmen with the aims, purposes, organization and regulations of the college; second, to help the student to evaluate his own study habits and to learn how he can develop more effective ones; third, to aid the student in determining his own aptitudes and interests, and their relationship to his educational and occupational goals; fourth, to teach the basic principles of life adjustment. A fifth purpose, introduction to the teaching profession, is included for education majors.

**402: Reading.** 2-1-2. (Membership of class must have prior approval of teacher or the recommendation of the School of Education or the Guidance Counselor.) The purpose of this course is to provide opportunity for the college student to develop his reading skills, abilities, and understandings to such an extent that he can improve his college work. Special attention will be given to applying reading skills through proper methods of study in various content areas.

**500: Introduction to Education.** 0-3-3. Pre'q., sophomore standing. A course designed to help the student find himself in the profession of teaching, and to develop in him a professional attitude.

**620: Material and Methods of Teaching Content Subjects.** 0-3-3. Pre'q., Psychology 504. A course for the study of such topics as: Objectives in teaching, organization and subject matter, types of lessons, the recitation, lesson planning, problems in class control, etc.

**600: Driver Education and Highway Safety.** 2-1-2. Pre'q., Physical Education 500. Course is designed to acquaint the student with principles and practices of good driving; traffic problems are also studied.

**606: Principles of Secondary Education.** 0-3-3. Pre'q., Education 500, Psychology 504, admission to the School of Education, and a minimum of C average in (a) all credits earned at La. Tech, (b) all courses in Education and Psychology, and (c) the courses in the subject matter field or fields in which student teaching is planned. A study will be made of the secondary school as an institution and of the work of the secondary school teacher. In addition to reading, writing, and discussing the work of secondary school, directed observations of high-school teaching will be done.

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

622: **Materials and Methods of Teaching Arithmetic in Elementary Grades.** 0-3-3. Pre'q., Education 620. The course is designed to familiarize the student with the contribution that arithmetic makes in the development of children. Experiences in content, methods, and organization of instructional materials will be provided.

623: **Materials and Methods in Language Arts for the Elementary Grades.** 0-3-3. Pre'q., senior standing. A course to acquaint teachers with the materials available for use in the language arts program of the elementary school. Research, principles, and methods pertaining to teaching of reading will be emphasized.

650: **Materials and Methods in English.** 0-3-3. Pre'q., junior standing. Fall. The student will be introduced to the best techniques of organizing and presenting English material at the high-school level.

651: **Materials and Methods of Modern Language.** 0-3-3. Pre'q., twelve hours of modern language. The student will be introduced to the latest techniques of organizing materials and presenting them to the high-school pupils.

652: **Materials and Methods in Science.** 0-3-3. Pre'q., Psychology 504 and Education 606. Spring. A careful examination of the most advanced methods of organizing and presenting the materials in natural sciences for the secondary school.

653: **The Teaching of Social Science.** 0-3-3. Spring. An examination of the history, character, and purpose of Social Science is followed by presentation of appropriate teaching suggestions.

654: **Materials and Methods in Speech.** 0-3-3. Pre'q., Psychology 504. Spring. A thorough examination of the most advanced materials and methods for teaching speech in elementary and secondary schools.

656: **Materials and Methods in Mathematics.** 0-3-3. Pre'q., Mathematics 500, or sufficient teaching experience. Fall. The nature of mathematics and the outline of the course, methods of teaching arithmetic, algebra, plane and solid geometry, and an introduction to the teaching of trigonometry. Many selected problems will be solved to illustrate the fundamentals. Special emphasis will be placed on the interpretation and solving of reading problems.

657: **Materials and Methods of Health and Physical Education.** 4-2-4. Pre'q., junior standing. (Men only.)

658: **Materials and Methods in Business Education.** 0-3-3. Pre'q., junior standing. A course designed to acquaint the student with the best practices in teaching commercial subjects at the high-school level.

659: **Materials and Methods of Health and Phsical Education.** 3-3-4. Pre'q., junior standing. An introduction to the most advanced techniques and methods and the best materials used in Health and Physical Education. Four hours per week will be spent in working with elementary children in their health and physical education activities. (Women only.)

660: **Materials and Methods of Art. (The same as Art 660).** 0-3-3. Fall.

675: **Supervision of School Publications** 0-3-3. A study of producing students annuals, newspapers and other publications by letter-press and offset printing and means of financing designed to aid faculty sponsors.

700: **Use of Audio-Visual Aid in the Classroom.** 0-3-3. Members of the class will study the operation and use of the lantern slide, film strip, opaque and motion picture projectors. Particular stress will be placed on the effective use of visual aids in the clasroom. Teaching films in the Tech Film Library will be reviewed and evaluated.

**702: Measurement in Education.** 0-3-3. A course designed to acquaint the student with the principles of measurement, types of tests, the essentials of good questions, and objective and standardized tests; shall be taken prior to or concurrently with student teaching.

**712: Directed Student Teaching Experiences.** 5-0-2. Pre'q., Education 620; to be scheduled immediately preceding Education 713. Directed observation, participation, and critique related to the level in which student plans to teach.

**713: Observation and Student Teaching in the Elementary School.** 10-2-5. Pre'q., Education 622, 623, 712, admission to the School of Education, a minimum over-all average of C in all credits earned at La. Tech and a minimum of C average in all professional courses taken at La. Tech. Student teachers observe, plan, direct, and evaluate experiences of elementary school children. Not more than eleven additional hours may be taken with student teaching.

**715: Directed Student Teaching Experiences.** 5-0-2. Pre'q., Education 606; to be scheduled immediately preceding Education 716. Dircted observation, participation, and critique related to the level in which student plans to teach.

**716: Observation and Student Teaching in the Secondary School.** 10-2-5. Pre'q., Education 606, admission to the School of Education and a minimum of "C" average in (a) credits earned at La. Tech, (b) all professional courses, and (c) the courses in the subject matter field or fields in which student teaching is planned. Student teachers are given supervised experience in observing, planning, directing, and evaluating high school pupils in chosen subject matter area. While not more than eleven additional hours may be taken with student teaching, the student should consider the advantage of a reduced load during the semester in which student teaching is done.

**720: Education of Educable Mentally Retarded Children.** 0-3-3. The methods and curriculum of teaching educable mentally retarded children with emphasis on special class organization, including classroom observation.

**721: Education of Gifted Children.** 0-2-2. The nature and needs of exceptionally able students with special emphasis on curriculum adjustments and research in the field.

**733a: Problems in Education.** 0-1-1. This course is designed for the mature student who is interested in further study of guidance, special services, and curriculum. (Spring, Summer.)

**733b: Problems in Education.** 0-2-2. This course is designed for the mature student who is interested in further study of guidance, special services, and curriculum. (Spring, Summer.)

**733c: Problems in Education.** 0-3-3. This course is designed for the mature student who is interested in further study of guidance, special service, and curriculum. (Spring, Summer.)

**750: Improving Instruction in Art.** 4-1-3 or 0-3-3. A study in problems of teaching art activity in the elementary and junior high school. Consideration will be given to a philosophy of art education, standard of evaluation of lessons and units in terms of child development, visual aids, exploration of various art materials and techniques, comparative study of art curricula and curriculum planning. Lectures, laboratory, reports, research in individual problems, observations.

**770: Principles and Techniques of Guidance.** 0-3-3. Pre'q., senior standing. The theory and practical application of guidance techniques used in counseling students and parents regarding study, discipline, health, social, emotional, educational and vocational problems.

## COURSES FOR GRADUATE STUDENTS ONLY

**EDUCATION:**

**800: Foundation of Curriculum Construction.** 0-3-3. A study of basic principles underlying curriculum construction in elementary and secondary schools. Major emphasis is upon the selection, organization and sequential arrangement of materials to meet the needs of children and youth. Students will be expected to be familiar with recent developments in the fields of educational psychology, human development, and philosophy.

**801: Problems in Teaching Elementary Science.** 0-3-3. A survey of research bearing on problems of organizing, developing, and evaluating the curriculum in science. Individual students will have the opportunity to devote special attention to specific topics or problems of interest.

**802: Problems in Teaching Language Arts in the Elementary School (other than reading).** 0-3-3. Prerequisites, Education 623, or equivalent. A study of the principles, research, methods and materials needed for teaching written and oral forms of communication in elementary and junior high schools. Specific content includes the teaching of spelling, handwriting, creative writing, grammar, literature, and speaking activities. (Summer)

**803: Problems in Teaching Reading.** 0-3-3. Prerequisites, Education 623, or equivalent. A study of problems in the teaching of reading in elementary and secondary schools. Special emphasis will be given to the development of a reading program, diagnosis and care of individual needs of pupils, use of materials, research findings and their applications to methods of instruction. (Summer)

**804: Problems in Teaching Arithmetic in the Elementary School.** 0-3-3. A survey of research bearing on problems of organizing, developing, and evaluating the curriculum in arithmetic. Individual students will have the opportunity to devote special attention to specific topics or problems of interest.

**805: Improving Instruction in Business.** 0-3-3. A study of the selection and organization of teaching materials for general business, bookkeeping, secretarial science. business arithmetic and business English at the high school level. Consideration will be given to standards of achievement, evaluation, motivation devices, visual aids, projects, practical problems and unit and lesson planning. Required of all Business Education master's degree candidates. (Summer)

**806: Improving Instruction In English.** 0-3-3. A study of the methods of teaching usage and literature, analyses of curricula, selection of materials, research in recent studies in the teaching of English. Special attention will be given to planning units of work, to creative teaching and to a consideration of the needs of youth in areas of reading, writing, speaking, and listening. Interest groups will be formed so that students may participate in solving individual problems. Required of all master's degree candidates in English Education. (Fall, Summer)

**807: Improving Instruction in High School Mathematics.** 0-3-3. The place of mathematics in general education and in specialized fields; professionalized subject matter; modern methods of teaching. Special attention will be given to the teaching of advanced arithmetic, algebra, geometry and general high school mathematics as applied to individual needs of pupils. Students will become familiar with teaching aids, long-unit assignments and the construction and use of standardized and teacher-made tests. Required of all master's degree candidates in Math Education. (Fall, Summer)

808: **Improving Instruction in Science.** 0-3-3. A study of present-day trends in the teaching of science, content ,organization of materials, methods of instruction ,student activities, objectives, observation trips, use of text-books, laboratory work and equipment, evaluation, preparation of unit and lesson plans, projects and student guidance. Required of all master's degree candidates in Science Education. (Spring, Summer)

809: **Improving Instruction in the Social Studies.** 0-3-3. A study of the selection and organization of subject-matter content in history, civics, geography and other social studies, the planning of student activities, the use of instructional materials and standardized and teacher-made tests. Students will become acquainted with functional methods of preparing unit and lesson plans and with the utilization of community resources. Required of all master's degree candidates in Social Science Education. (Spring, Summer)

810: **The Principalship.** 0-3-3. The duties of the school principal with emphasis upon problems and opportunities in elementary and secondary schools. Emphasis will be placed upon the instructional program, routine duties, school lunch program, pupil accounting, finance, public relations and the school plant.

815: **Supervision.** 0-3-3. Designed to aid those individuals who have responsibility for assisting teachers or student teachers in the improvement of instruction at both the elementary and secondary level. Attention will be given to general principles of supervision and to specific techniques and procedures.

816: **History and Philosophy of Education.** 0-3-3. Designed to trace, through European and American history, some of the more important educational problems of modern times as they have been affected by social and political facts of history, by contributions of leading educational theorists and by institutional practice. Required of all master's degree candidates in Secondary Education. (Spring, Summer)

820: **Educational and Occupational Information.** 0-3-3. Pre'q., Education 770 and consent. A study of the sources and use of educational and occupational information in the counseling program.

821: **Group Procedures in Guidance.** 0-3-3. Pre'q., Education 770 and consent. Discussion of the place and function of group methods in guidance programs. Exploration of possibilities for such activities as group counseling in homerooms in schools.

822: **Supervised Practice in Counseling.** 4-1-3. Pre'q., Education 770, Psychology 722 and consent. A course designed to give the student actual practice in counseling. Each student will be expected to complete several cases involving the preliminary interview, testing, analysis of data, counseling interview, and written summaries.

823: **Administration and Organization of Guidance Services.** 0-3-3. Pre'q., Education 770 and consent. A study of current practices in the development, organization, administration, and supervision of the various types of guidance services in elementary andsecondary schools.

851: **Educational Research and Thesis Writing.** Three hours. A critical analysis of research design in various fields, with emphasis upon the individual student's area of specialization. This analysis will be followed by an effort to assist the student in selecting and outlining a problem, collecting and systematizing data; and in the preparation of manuscripts for term projects and theses.

852: **Educational Research and Thesis Writing.** Three hours. A continuation of Education 851. This course is designed for students who are writing theses.

## LIBRARY SCIENCE

To meet the needs of Louisiana schools, courses in Library Science are offered which prepare teachers and librarians in conformity with the requirements of the State Department of Education and the Southern Association of Colleges and Secondary Schools. The Elementary Grade Curricula include three hours of Library Science and three of the Secondary Curricula require six hours. Education majors are encouraged to consider Library Science as an additional teaching field or as a means of expanding their services in the schools of the State as full-time librarians. Students completing the eighteen hours of Library Science qualify for public library subprofessional positions in the State and are eligible for employment as public library assistants.

501: **Books and Materials for the Elementary School.** 0-3-3. A study of the relation of library materials to the educational program of the elementary school; the reading needs and interests of children; reading guidance; and principles and tools for selecting books and other materials. Provides opportunity for reading numerous books and examining many types of audio-visual and printed materials.

502: **Books and Materials for the Adolescent Child.** 0-3-3. A study of the relation of library materials to the educational program of the high school; the reading needs and interests of the adolescent; reading guidance; and principles and tools for selecting books and other materials. Provides opportunity for reading numerous books and examining many types of audio-visual and printed materials.

601: **School Library Administration.** 0-3-3. Designed to acquaint the student with the role of the library in the school; services of the library to teachers, students and the community; business practices; housing and equipment; charging systems; and acquisition of books and materials.

602: **Organization of Materials for the School Library.** 0-3-3. Pre'q., Library Science 601. Provides instruction in accessioning, classification, cataloging, mechanical preparation of books and other library materials, mending of books and other printed materials, and binding routines.

603: **Library and the Curriculum.** 0-3-3. Acquaints the student with general and special reference materials and with the use of the library collection for reference purposes. Gives the student opportunity to learn techniques of collecting and organizing material for term papers and research problems.

604: **Library Practice Work.** 0-3-3. Pre'q., Library Science 601, 602 and 603. Designed to provide actual work-experiences in all phases of school library work. Provides practice in teaching lessons on the use of books and libraries.

650: **Literature for Children.** 0-3-3. An interpretative and critical study of literature suitable for children in the elementary school grades. Designed to relate understanding of child growth and development

to knowing and using books with children. Practical experience in reading aloud, story-telling, and creative drama.

651: **Literature for Adolescents.** 0-3-3. A critical survey of fiction, non-fiction, biography, poetry, and drama for junior and senior high school students and a study of ways to organize the program in literature. Consideration of reading interest, standards of selection and evaluation, presentation of book reports.

## PSYCHOLOGY

501: **General Psychology.** 0-3-3. Pre'q., sophomore standing. A study of the fundamental processes and problems of human behavior. Also a consideration of the psychological principles underlying teaching and learning.

504: **Educational Psychology.** 0-3-3. Pre'q., Psychology 501. A course designed to meet the needs of prospective teachers by bringing an application of psychological principles to the problems of instruction.

505: **Child Psychology.** 0-3-3. Pre'q., Education 500, Psychology 504. A study of the physical and mental growth of the child, his social, emotional, motor development, interests, and imaginative activities. Opportunities will be given for studying children at play and in school. Special reports will be prepared and individual studies made.

506: **Adolescent Psychology.** 0-3-3. Pre'q., Education 500, Psychology 504. A study of the physical and mental growth of child during the period of adolesence and his transition from childhood to adulthood. Special attention will be given to the application of psychological principles of teaching at the high-school level.

601: **Advanced General Psychology.** 0-3-3. Pre'q., Psychology 501, Junior standing. Fall, odd years. An intensive survey of the literature in the emotional, cognitive, and affective process.

603: **Clinical Psychology.** 0-3-3. Pre'q., Psychology 501 and Psychology 722 or Education 702: Spring, even years. An introductory course in the theory and practice of individual psychological testing and administration, interpretation, and reporting. Mastery of performance scales, Stanford Binet and similar tests will be required. Actual practice will be done under supervision in local schools.

604: **Social Psychology.** 0-3-3. Pre'q., Psychology 504 or 714, Sociology 501. Spring. A study of the nature of social behavior, social stimulation and response; a psychological analysis of society and social institutions.

605: **Fields of Psychology.** 0-3-3. Pre'q., Psychology 714. Fall, odd years. A seminar for the study of the major fields of Psychology and their chief proponents.

606: **Abnormal Psychology.** 0-3-3. Pre'q., Psychology 501. Spring. A study of mental abnormalities as they affect the individual. The more common mental disorders are considered and classified. Suggestions as to diagnosis, care, and treatment are made. Individual papers and class reports will be prepared.

607: **Experimental Psychology.** 2-2-3. Pre'q., Psychology 501. Fall, even years. An elementary course in Experimental Psychology dealing with the more important concepts, methods and findings in the field, from sensory processes to behavior in social situations. A selected number of suitable experiments will be performed under supervision and special attention will be given to control, manipulation and measurement of variables.

609: **Physiological Psychology.** 0-3-3. Pre'q., Psychology 501. Fall, odd years. An intensive study of the anatomy and physiology of the

nervous system, the endocrine glands and metabolic processes. Concentration on the physiological basis of perception, learning, emotion and motivation.

610: **Psychology of Personality.** 0-3-3. Pre'q., Psychology 501. Spring, even years. This course is designed to study the characteristic patterns of behavior through which the individual adjusts to his environment, especially the adjustment to social environment.

645: **Industrial Psychology.** 0-3-3. Pre'q., Psychology 501. Spring. The application of psychology to problems of industrial learning, adjustment of technical to mental factors, monotony, fatigue, environmental conditions, industrial unrest, morale and accidents.

708: **Human Growth and Development.** 0-3-3. Summer. A study of child growth and development based on knowledge of general principles of physiological and mental growth, the laws which govern these and the utilization of these laws to promote their adjustment.

714: **Dynamics of Adjustment.** 0-3-3. Fall, even years. A comprehensive study of the problems of self-adjustment and self-management and the development of a well integrated personality. Causal factors resulting in emotional imbalance are considered and critically analyzed.

720: **Psychology of Mentally Retarded Children.** 0-3-3. The classification of the mentally retarded child according to etiology, clinical type, and for education purposes. Modern educational procedures to include special class program and special teaching methods for the regular classroom teacher. When this course is offered as a two-week workshop, it will carry two semester hours credit. Undergraduates must get the Dean's permission to take this course.

722: **Psychometrics.** 2-2-3. Pre'q., Psycholoby 501 and junior standing. Fall, even years. This course is designed to offer the student an orientation to psychological testing procedures, their evaluation and use in the analysis of students.

725: **Psychology of Socially and Emotionally Disturbed Children.** 0-3-3. A study and presentation of the problems involved in the education of disturbed and socially maladjusted children. An evaluation of the types of programs provided for disturbed children and a consideration of the methods of working with them.

755: **Introduction to Exceptional Children and Youth.** 0-3-3. Pre'q., senior standing. A survey of the characteristics and educational needs of children having defective vision, hearing impairment and/or speech difficulties; superior or inferior intellectual ability; physical handicaps.

# Department of Health and Physical Education

G. B. HOGG, PROFESSOR AND HEAD OF THE DEPARTMENT

The Department of Health and Physical Education has five major objectives: (1) to provide opportunity for vigorous exercise that contributes to general physical and mental health; (2) to give students an opportunity for the development of sports and dance skills for use in leisure time; (3) to provide service courses to meet the college requirements for graduation; (4) to provide courses to meet the requirements of the State Department of Education for certification of teachers; (5) to provide a curriculum to prepare teachers in Health, Safety, and Physical Education.

All students are required by the college to complete four semester hours of physical education activity. This work should be completed by the end of the sophomore year. Women students are required to have one of the four hours in a rhythm, one in an individual sport, and the other two may be selected from any of the courses offered.

Physical examinations will be given at the college each year to freshmen, juniors, and transfer students.

Costume: For men students: Each man who is registered for an activity class in Physical Education is expected to have a sweat suit, tennis shoes, blue trunks, and a T-shirt. The trunks and T-shirts may be bought after the student arrives at college.

For women students: Tennis shoes, white socks, shirt, and shorts are required uniform to be worn in all active Physical Education classes.

## MAJORS IN HEALTH AND PHYSICAL EDUCATION

Graduation for majors in Health and Physical Education is based on the following conditions and requirements:

1. A total of 130 hours and at least a "C" average on all work pursued at this institution.

2. The satisfactory completion of the requirements of preparation for teaching in two fields. Some desirable teaching combinations are:

Physical Education and Science
Physical Education and English
Physical Education and Mathematics
Physical Education and Social Science

# DECRIPTION OF HEALTH AND PHYSICAL EDUCATION COURSES

## MEN AND WOMEN

**500: Health and Safety Education.** 0-3-3*. A course designed to acquaint the prospective teacher with factors which affect healthful and safe living and to influence the teacher to include such principles in all his teaching.

**545: Social Dancing.** 3-0-1. Open to students who do not know how to dance. The course offers the fundamental social dance steps, including the waltz, foxtrot, rhumba, cha cha cha, and other currently popular dance steps.

**561: American Folk Dance.** 3-0-1. The course includes square and round or couple dances that are a part of the American Folk Dance. Experience is provided in learning to call square dances.

**562: Beginning Bowling.** 3-0-1. This course offers instruction in the fundamental techniques, rules, and etiquette of bowling with provision for practical application. (Students enrolled must provide transportation to and from the bowling lanes and pay a fee to cover the cost of bowling.)

**582: Life Saving and Water Safety:** 3-0-1. Prerequisite: Physical Education 581 or skill in swimming strokes and ability to swim 440 yards. The Red Cross Senior Life Saving course is taught followed by the Red Cross Water Safety Instructor's course for those who qualify.

**588: Field Archery.** 3-0-1. Pre'q., Target Archery 578. Instruction in instinctive and free style shooting. Repair, upkeep and maintenance of equipment. Students will be required to furnish their own equipment.

**600: Safety Education.** 0-2-2. Pre'q., Physical Education 500. A survey of the accident problem, the social and emotional aspects involved and the application to home, community, and industrial life.

**605: Materials and Methods in Health Education in High Schools.** 0-3-3.

**610: History and Principles of Physical Education.** 0-3-3. Pre'q., sophomore standing. A course designed especially for Health and Physical Education Majors. A study of the history of physical education since ancient times and of biological, psychological, sociological, economics and pedigogical principles of physical education.

**620: Organization and Administration of Physical Education.** 0-2-2. A treatment of the practical factors involved in administering the large unit of health and physical education, including tests and measurements utilized in evaluation of results.

**621: First Aid.** 0-2-1. Lectures, discussions, and practical demonstrations of Red Cross methods in first aid.

**622: Instructor's Course in First Aid.** 0-3-3. Pre'q., Physical Education 621 or the completion of Standard and Advanced Red Cross First Aid course within the past three years.

**626: Applied Anatomy and Kinesiology.** 0-3-3. Pre'q., Zoology 525. This course includes the theory of body movement in relation to Physical Education activities.

**640: Materials and Methods in Physical Education and Health Education For Elementary Schools.** 0-3-3. Pre'q., sophomore standing. The course is designed to prepare the elementary teacher for his direction of children in physical education and for developing in children desirable knowledges, skills, and attitudes in health.

**704: Introduction to Community Recreation.** 0-3-3. A survey of the types of community recreation programs and of recreation facilities.

**705: Athletic Injuries, Prevention, Diagnosis, and Treatment.** 0-2-2. Open to Physical Education majors only. A course for men and women in

*First number—laboratory hours per week; second, lecture hours per week; third, credit value.

the prevention, diagnosis, and treatment of injuries in the gymnasium and on the athletic field.

709: **Measurement in Physical Education.** 2-2-3. This course is designed to enable the student to learn the fundamental processes in testing and measuring boys and girls at the elementary and high school level. The most important elements to be measured: strength, skills, coordination, and cardiovascular conditions.

710: **Building and Maintaining Recreational Facilities.** 0-3-3. An advanced course to enable students to design, build, and maintain recreational facilities, including baseball, basketball, track, football, swimming, and for minor sports.

MEN ONLY

401: **First Semester Sports Activities.** 3-0-1. (Touch football, soccer, speed ball, basketball). Fundamental techniques, rules, and team play.

402: **Second Semester Sports Activities.** 3-0-1. (Volley ball, boxing, soft ball). Fundamental techniques, rules, and team play.

406: **Corrective Physical Education.** 3-0-1. This course is for those who are not able to take Physical Education 401-402 and 501-502. Emphasis will be placed on the correction of kyphosis, lordosis, scoliosis, etc.

408: **Tumbling, Pyramids, and Apparatus.** 3-0-1. The technique and practice of progressive elementary exercise in tumbling and with heavy apparatus; elementary training in floor and parallel bar pyramids.

415, 416, 515, 516: **Physical Education Activity Credit.** 3-0-1. A course for non-physical education majors who are given credit for varsity participation for a sport in season. A student may not acquire more than four hours in this manner.

501: **Third Semester Sports Activities.** 3-0-1. (Speed ball, soccer, touch football, basketball). Fundamentals, rules, and team play.

502: **Fourth Semester Sports Activities.** 3-0-1. (Boxing, soft ball, volley ball). Fundamentals, rules and team play.

507: **Elementary Instruction in All Minor Sports.** 1-2-2. Required of all majors in Physical Education.

575: **Golf.** 3-0-1.

576: **Tennis.** 3-0-1. This course includes the practice of the various techniques of the game and the rules involved.

577: **Badminton.** 3-0-1. The course includes the practice of the various techniques of the game and the rules involved.

578: **Archery.** 3-0-1. Fundamentals of shooting and instruction in the choice of equipment.

604: **Organization and Administration of Intramural Sports.** 0-3-3. Pre'q., Physical Education 507. This course covers the organization and administration of high school and college intramural programs. The student is required to assist in the organization and administration of the intramural program at Tech.

606: **Principles and Practices of Football Coaching.** 0-3-3. This course is designed to familiarize the student with various offensive and defensive systems that are used by coaches.

608: **Principles and Practices of Baseball Coaching.** 0-2-2. Fundamentals: (1) throwing, batting, and fielding; (2) position play; (3) offensive and defensive team strategy; (4) training and practices; (5) officiating.

612: **Principles and Practices in Basketball Coaching.** 0-2-2. Fundamentals of team offense and defense. Training and practice; scouting and strategy; officiating.

614: **Principles and Practices in Track and Field.** 0-2-2. Fundamental movements involved in the different events; (1) staffing for the different events; (2) training and practice; (3) officiating.

WOMEN ONLY

**403: Team Sports.** 3-0-1. Fundamentals of soccer, speedball, and field hockey, and intensive study of rules, play etc.

**404: Team Sports.** 3-0-1. Fundamentals of volleball, basketball, and softball, and intensive study of rules, play, etc.

**410: Restricted Activities.** 3-0-1. For girls not physically able to take regular activitiy courses.

**419: Soccer and Basketball.** 3-0-1. Fundamental techniques, rules, and team play.

**421: Recreational Sports.** 3-0-1. Instruction in darts, table tennis, shuffleboard, horse-shoes, ring tennis, croquet, aerial tennis, and other recreational games.

**423: Softball and Volleyball.** 3-0-1. Fundamental techniques, rules, and team play.

**430: Games of Low Organization.** 3-0-1. Materials are presented and practice given in methods of teaching.

**517: Camp Leadership.** 0-3-3. The study of the duties and responsibilities of camp counselors, leadership techniques in program activities, and camp organization.

**520: Rhythms for the Elementary Grades.** 3-0-1. The course is designed for elementary education majors; methods and materials are presented and practice is given in the teaching of creative rhythms, folk dances, and singing games in the elementary grades.

**530: Fundamentals of Modern Dance and Composition.** 3-0-1. Included in the course are conditioning exercieses and techniques that provide a vocabulary of movemnt leading into composition of dances.

**531: Advanced Modern Dance and Composition.** 3-0-1. Pre'q., Physical Education 530 or comparable dance experience. Advanced techniques and composition comprise the course.

**532: Dance Composition.** 3-0-1. Physical Education 531. Advanced modern dance composition.

**50: Folk Dancing of Foreign Countries.** 3-0-1. Dances from various countries of the world such as Mexico, England, Germany, Denmark, etc. are taught along with a study of the country and the people where the dances originated.

**541: Golf.** 3-0-1. Pre'q., sophomore standing, The basic techniques, skills, and rules of the game are taught.

**550: Stunts, Tumbling, and Rebound Tumbling.** 3-0-1. The course includes instruction in basic stunts and tumbling skills and beginning stunts on the trampoline.

**560: Tap Dancing.** 3-0-1. Instruction in beginning tap dance skills is given.

**560 Ad: Advanced Tap Dacing.** 3-0-1. Pre'q., Physical Education 560 or a knowledge of the basic skills and techniques. Emphasis is placed on the composition of tap dance routines.

**571: Tennis.** 3-0-1. The course includes the techniques, skills, and rules of the game.

**572: Badminton.** 3-0-1. The course includes the techniques, skills, and rules of the game.

**573: Archery.** 3-0-1. The basic techniques, skills, and rules of archery are taught.

**579: Advanced Tennis.** 3-0-1. Pre'q., Physical Education 571 or knowledge skill in the basic techniques. Advanced strokes such as the volley, lob, smash, chop, and half-volley, and game strategy are taught.

**580: Beginning Swimming.** 3-0-1. For students unable to swim safely in deep water.

**581: Intermediate Swimming.** 3-0-1. Emphasis is on the development of skill in strokes and strength in swimming.

**613: Technique in Coaching Team Sports.** 0-3-3. Pre'q., Physical Education 403, 404. Study of team sports from viewpoint of teacher and coach.

**670: Advanced Techniques and Methods of Teaching Rhythms.** 3-0-1. Pre'q., Physical Education 530, 540, and 560. Open to Physical Education majors only. The course includes advanced techniques, teaching methods and materials with opportunities for practice in teaching the following: (1) rhythms for elementary grades; (2) folk dance; (3) tap dance; (4) modern dance; and (5) social dance.

## THE GRADUATE PROGRAM

### *Undergraduate Preparation Requirements for All Graduate Degrees in Education*

Candidates seeking a master's degree in any of the education curricula will be required to present a minimal program of undergraduate and graduate courses in the major field totaling the number of semester hours required for an undergraduate major plus a graduate minor in that field. Students enrolling with insufficient preparation to meet this requirement will be expected to regard as deficiencies all courses needed to meet the standard.

### *Requirements for the Degree of Master of Arts in Education With a Major in Elementary Education*

The candidate seeking a Master of Arts Degree in Elementary Education will be required to earn a minimum of thirty semester hours which may include six hours credit for a thesis. The course work will consist of at least nine hours of credit selected from content subjects and/or professional courses which are designed exclusively for graduate credit. Courses selected for other credits required for the degree may be taken from junior and senior undergraduate courses for which he has not already received credit.

The candidate will be required to select with the advice of his counselor a minimum of eighteen hours of content courses and twelve hours of professional work, or a minimum of twelve hours of content and eighteen hours of professional courses. The content courses must be approved by the student's adviser and may be selected from the following areas: English, mathematics, science, and social science.

### *Requirements for the Degree of Master of Arts in Education with Eligibility for Counseling*

The candidate seeking eligibility for certification as a guidance counseling may select his course work so as to include a minimum of twelve semester hours in a content area. The rest of the work will be taken in courses designed exclusively for counselors.

The professional courses for Art, Music, elementary teachers and guidance counselors may be selected from the following:

| | Semester Hours |
|---|---|
| Education 750: Improvement of Art Instruction | 3 |
| Education 770: Principles and Techniques of Guidance | 3 |
| Education 800: Foundations of Curriculum Construction | 3 |
| Education 801: Problems in Teaching Science in the Elementary Schools | 3 |
| Education 802: Problems in Teaching Language Arts in the Elementary School (other than reading) | 3 |
| Education 803: Problems in Teaching Reading | 3 |
| Education 804: Problems in Teaching Arithmetic in the Elementary School | 3 |
| Education 810: The Principalship | 3 |
| Education 811: Improving Instruction in Speech | 3 |
| Education 815: Supervision | 3 |
| Education 816: History and Philosophy of Education | 3 |
| Education 830: Improving Instruction in Music | 3 |
| Education 821: Group Procedures in Guidance | 3 |
| Education 822: Supervised Practice in Counseling | 3 |
| Education 823: Administration and Organization of Guidance services | 3 |
| Education 823: Improving Instruction in Music | 3 |
| Education 851: Educational Research and Thesis Writing | 3 |
| Education 852: Educational Research and Thesis Writing Continued | 3 |
| Education 860: Advanced Materials and Methods in Music | 3 |
| Psychology 708: Human Growth and Development | 3 |
| Psychology 720: Psychology of Mentally Retarded Children | 3 |
| Psychology 721: Education of Gifted Children | 2 |
| Psychology 722: Psychometrics | 3 |
| Psychology 755: The Psychology of Exceptional Children | 3 |

## THE GRADUATE PROGRAM IN SECONDARY SUBJECTS

The candidate seeking a master's degree in education with an academic major in biology, business, chemistry, mathematics, physics, or social studies will be required to earn a minimum of thirty semester hours which may include six hours credit for a thesis. The course work will consist of at least nine hours of credit from content subjects and/or professional courses which are designed exclusively for graduate credit. Courses selected for other credits required for the degree may be chosen from junior and senior undergraduate courses for which he has not already received credit.

The candidate will be required to select with the advice of his counselor a minimum of twelve semester hours of professional courses and a minimum of eighteen hours of content work. Content and professional courses should be selected to meet the needs of the student on his present job or for the job to which he aspires. If he plans to continue work

in a specialized content area above the master's degree level, he should plan his program for depth in a content area. If the masters if to be considered a terminal degree and his teaching position requires breadth and depth of preparation, this should be considered in planning the graduate program leading to the master's degree. Content courses numbered in the 600 and 700 series will be designated "Graduate and Undergraduate Credit" when their content is of such a nature as to be taken for graduate credit. These courses and those designed exclusively for graduate credit are listed in the General Catalog.

Professional courses for graduate credit may be taken from the following:

Education 702 (3) Measurement in Education
Education 720 (3) Education of Mentally Retarded Children
Education 733 (3) Problems in Education
Education 750 (3) Improving Instruction in Art
Education 770 (3) Principles and Techniques of Guidance
Education 800 (3) Foundations of Curriculum Construction
Education 805 (3) Improving Instruction in Business
Education 806 (3) Improving Instruction in English
Education 807 (3) Improving Instruction in Math.
Education 808 (3) Improving Instruction in Science
Education 809 (3) Improving Instruction in Social Science
Education 810 (3) The Principalship
Education 815 (3) Supervision
Education 816 (3) History and Philosophy of Education
Education 820 (3) Educational and Occupational Information
Education 821 (3) Group Procedures in Guidance
Education 822 (3) Supervised Practice in Counseling
Education 851-2 (6) Educational Research and Thesis Writing
Psychology 722 (3) Psychometrics
Psychology 708 (3) Human Growth and Development
Psychology 714 (3) Dynamics of Adjustment
Psychology 720 (3) Psychology of Mentally Retarded Children
Psychology 725 (3) Psychology of Socially and Emotionally Disturbed Children
Psychology 755 (3) Psychology of Exceptional Children

# SCHOOL

# OF

# ENGINEERING


BEN T. BOGARD, *Dean*

# TABLE OF CONTENTS

# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Wed. May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# OFFICERS OF INSTRUCTION

## HEADS OF DEPARTMENTS

Woodrow W. Chew, B.S., M.S.
Department of Chemical Engineering

Richard A. Smith, B.S., M.S.
Department of Civil Engineering

David L. Johnson, B.A., B.S., M.A., M.S., Ph.D.
Department of Electrical Engineering

H. L. Henry, Jr., B.S., M.S.
Department of General Engineering

J. J. Thigpen, B.S., B.S., M.S., Ph.D.
Department of Mechanical Engineering

Melvin A. Nobles, B.A., B.S., M.S., Ph.D.
Department of Petroleum and Geological Engineering

Virgil Orr, B.S., M.S., Ph.D.
Department of Engineering Research

## PROFESSORS

Rhesa M. Allen, Jr., *Geology*—B.S., Virginia Polytechnic Institute; M.S., University of Idaho; Ph.D., Cornell University; Registered P.E., (Mining) West Virginia. (1957)

Joseph H. Barnwell, *Mechanical Engineering*—B.S., Georgia Institute of Technology; M.S., A.&M. College of Texas; Registered P. E., Louisiana. (1941-1951) (1958)

Ben Taylor Bogard, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1937)

John D. Calhoun, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1948)

Woodrow W. Chew, *Chemical Engineering*—B.S., New Mexico State University; M.S., Oklahoma State University; Registered P.E., Louisiana. (1940)

H. L. Henry, Jr., *General Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Illinois Institute of Technology; Registered P.E., Texas; Louisiana. (1946-1951) (1955)

David L. Johnson, *Electrical Engineering*—B.A., Berea College (Kentucky); B.S., M.A., University of Iowa; M.S., Ph.D., Oklahoma State University; Registered P.E., Louisiana; Oklahoma. (1955)

Milton R. Johnson, Jr., *Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Oklahoma State University; Registered P.E., Louisiana; Arkansas. (1947)

Henry A. Kallsen, *Civil Engineering*—B.S., Iowa State University; M.S., Ph.D., University of Wisconsin; Registered P.E., Louisiana, Wisconsin. (1959)

Troy J. Laswell, *Geology*—A.B., Berea College; A.M., Oberlin College; Ph.D., University of Missouri. (1957)

Melvin A. Nobles, *Petroleum Engineering*—B.A., Abilene Christian College; B.S., Texas Technological College; M.S., Ph.D., University of Texas; Registered P.E., Oklahoma. (1957)

Virgil Orr, *Chemical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Ph.D., Louisiana State University; Registered P.E., Louisiana. (1952)

Gustaf H. Panula, *Chemical Engineering*—B.S., Michigan College of Mining and Technology; Ph.D., University of Colorado; Registered P.E., Illinois. (1954)

Richard A. Smith, *Civil Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P. E., Louisiana; Virginia. (1947)

Richard M. Steere, *Electrical Engineering*—B.S., E.E., Alabama Polytechnic Institute; M.S., Massachusetts Institute of Technology; Registered P.E., Louisiana. (1955)

Arthur C. Thigpen, *Electrical Engineering*—B.S., B.S., Louisiana Polytechnic Institute; M.S., Oklahoma State University; Registered P.E., Louisiana. (1947)

J. J. Thigpen, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; B.S., U.S. Military Academy; M.S., Ph.D., University of Texas; Registered P.E., Louisiana. (1947)

Grover J. Trammell, *Mechanical Engineering*—B.S., M.S., Tulane University; Registered P.E., Louisiana. (1957)

ASSOCIATE PROFESSORS

Stewart Baggarly, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Texas; Registered P.E., Louisiana. (1954)

William Harrison Bussell, Jr., *Mechanical Engineering*—B.S., M.E., M.S.E., University of Florida; Registered P.E., Florida. (1957)

J. Gale Chumley, *General Engineering*—B.A., B.S., Central Oklahoma State College; M.S., Oklahoma State University. (1949)

Lee L. Denny, *General Engineering*—B.S., M.S., University of Arkansas. (1958)

C. H. Edwards, Jr., *Civil Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Texas; Registered P.E., Louisiana. (1949)

Ellis M. Killgore, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Georgia Institute of Technology; Registered P.E., Louisiana. (1949-1952) (1953)

James W. Malone, *Chemical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University; Registered P.E., Louisiana. (1947, 1956)

Robert W. McLeane, *Civil Engineering*—B.S., M.S., Missouri School of Mines and Metallurgy. (1957)

Jack Timberlake Painter, *Civil Engineering*—B.S., M.S., West Virginia University; Registered P.E., Louisiana. (1955)

Francis C. Roy, *Electrical Engineering*—B.S., Louisiana State University; M.S., University of Texas; Registered P.E., Louisiana. (1955)

James S. Tarbutton, *Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas; Registered P.E., Louisiana. (1954)

ASSISTANT PROFESSORS

*Harry W. Atkinson, *Civil Engineering*—B.S., University of Illinois; Registered P.E., Louisiana. (1958)

*Jack Canterbury, *Mechanical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas; Registered P.E., Louisiana. (1958)

*Robert E. Carlile, *Petroleum Engineering*—B.S., M.S., University of Tulsa; Registered P.E., Louisiana. (1960)

William R. Higgs, *Geology*—B.S., M.S., University of Alabama; Registered P.E., Louisiana. (1955)

Calvin A. Lemke, *Civil Engineering*—B.S., M.S., Texas A. & M. College; Registered Surveyor, Texas. (1956)

Albert G. McKee, *General Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Mississippi; Registered P.E., Louisiana. (1957)

Robert H. Newell, *Electrical Engineering*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas; Registered P.E., Louisiana. (1956)

John Clark Ramsaur, *General Engineering*—B.S., Louisiana State University; M.E., University of Arkansas. (1954)

Charles R. Rostron, *Civil Engineering*—B.S., Iowa State College; M.S., University of Houston; Registered P.E., Louisiana; Texas. (1955)

Raymond E. Storms, *Petroleum Engineering*—B.S., M.E., Texas A.&M. College; Registered P.E., Texas, Louisiana. (1960)

*On Leave 1961-62

## INSTRUCTORS

Thomas D. Guthrie, *General Engineering* (Acting)—B.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1959)

Claud J. Irby, *Electrical Engineering (Acting)*—B.S., M.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1960)

James H. Madden, *Civil Engineering (Acting)*—B.S., Louisiana Polytechnic Institute. (1960)

Charles A. Killgore, *Chemical Engineering*—B.S., Louisiana Polytechnic Institute; Registered P.E., Louisiana. (1959)

## FACULTY COMMITTEES—SCHOOL OF ENGINEERING

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| Paul Bonner | Dr. David L. Johnson |
| W. W. Chew | W. H. McLaurin |
| Dr. LaRue Cocanougher | Dr. Virgil Orr |
| Agnes C. Cofer | Dr. Charles H. Smith |
| Dr. Kenneth R. Grubbs | Dr. W. B. Temple |
| | Dr. J. J. Thigpen |

# SCHOOL OF ENGINEERING

*BEN T. BOGARD, Dean*

The School of Engineering at Louisiana Polytechnic Institute had its beginning in September 1895 in a frame building and was known as the Department of Mechanic Arts of the Louisiana Industrial Institute. In February 1910 a movement was begun to change the curriculum offered in Mechanic Arts to a curriculum qualifying its graduates to receive the Bachelor of Industry Degree in General Engineering. In 1921 the name of the college was changed from Louisiana Industrial Institute to Louisiana Polytechnic Institute, and the General Engineering curriculum was continued with the Bachelor of Science Degree in General Engineering being awarded until the beginning of the 1927-28 college year. At that time a revision of the engineering offering was made, and two curricula were initiated: one leading to the Bachelor of Science Degree in Mechanical and Electrical Engineering, and the other to the Bachelor of Science Degree in Civil Engineering. Beginning with the 1936-37 school year, the mechanical and electrical engineering curriculum was separated into two curricula, with the Bachelor of Science Degree then being offered in each mechanical, electrical, and civil engineering. In 1939 chemical engineering was initiated, and the Department of Chemical Engineering was formed in 1940, offering the Bachelor of Science Degree in Chemical Engineering. In 1948 the Department of Petroleum Engineering was formed, and the Bachelor of Science Degree in Petroleum Engineering has been offered since that date. In 1953 the Department of Engineering Research was created and in the same year a geology curriculum leading to the Bachelor of Science Degree in Geology was initiated. This new Geology curriculum was incorporated with petroleum engineering, the name of the department then having been changed to the Department of Petroleum Engineering and Geology. The Bachelor of Science Degree in Geology was changed in 1955 to the Bachelor of Science Degree in Geological Engineering, at which time the name of the department was changed to the Department of Petroleum and Geological Engineering. In 1956 a non degree-granting General Engineering Department was formed to administer those engineering courses that are not identified with any particular branch of engineering. In 1957 a curriculum in Industrial Engineering, leading to the Bachelor of Science Degree in Industrial Engineering was initiated and is administered by the Department of General Engineering. Also in 1957 a two-year Technical Aid curri-

culum was initiated which, upon completion, leads to the receipt of a Technical Aid Certificate. The Department of General Engineering also administers the Technical Aid curriculum. In 1957 the School of Engineering also concluded cooperative plan agreements with certain industrial firms, thereby providing for students a plan of alternate periods of work in industry and in college.

Early in 1958 the State Board of Education authorized the School of Engineering to offer courses and curricula leading to the Master of Science degree.

*The curricula of chemical, civil, electrical, mechanical, petroleum and geological engineering enjoy accreditation by the Engineers' Council for Professional Development.*

The degree granted upon completion of the required courses of study is one or more of the following:

BACHELOR OF SCIENCE in: Chemical Engineering; Civil Engineering; Electrical Engineering; Geological Engineering; Industrial Engineering; Mechanical Engineering; and Petroleum Engineering.

MASTER OF SCIENCE in: Chemical Engineering; Civil Engineering; Electrical Engineering; Geological Engineering; Mechanical Engineering; and Petroleum Engineering.

A certificate is awarded to the student successfully completing the two-year Technical Aid curriculum.

The Engineering School is located in two buildings. In Bogard Hall are classrooms, library, and laboratories for the Chemical, Civil, Electrical, General, Mechanical, Petroleum and Geological Engineering Departments. The facilities of the Engineering Research Department and the Mathematics Department are also located in Bogard Hall. Additional classrooms and laboratories are located in the Engineering Annex, adjacent to Bogard Hall.

The laboratories are adequately equipped for instruction and training of students in the field of study which they have chosen.

## REQUIREMENTS FOR ADMISSION

A student desiring admission to the School of Engineering must meet the general entrance requirements and should have credit from his high school in the following:

| | | |
|---|---|---|
| English | 4 | units |
| Algebra | 2 | units |
| Plane Geometry | 1 | unit |
| Trigonometry | ½ | unit |
| Chemistry | 1 | unit |
| Physics | 1 | unit |

A student who meets the general entrance requirements will be granted unconditional entrance into the School of Engineering if he

(1) possesses the English, Chemistry, and Physics credits above and

(2) ranks in group A of the mathematics entrance test given beginning freshmen.

## MATHEMATICS EXAMINATION

At the beginning of each semester, including summer terms, a test or series of tests in mathematics will be given to all beginning freshmen in engineering. The test is designed to separate the students into four groups: A, B, C, and D. Students in these groups will register as follows:

A. Students in group A will be those whose scores are excellent and whose high school record shows at least the following credit in mathematics: One unit in plane geometry, two units in algebra, and one-half unit in trigonometry. They may register for Mathematics 540.

B. Students in group B will be those whose scores are average. They may register for both Mathematics 401 and Mathematics 402.

C. Students in group C will be those whose scores are poor. They will register for Mathematics 400 only.

D. Students in this group are those who make a very low grade on the examination and who have a very poor background in plane geometry or have not had plane geometry in high school. They will register for Mathematics 400 and Mathematics 403.

## CHEMISTRY EXAMINATION

At the beginning of each semester including summer term, an entrance examination in Chemistry will be given to all entering freshmen students in Engineering. As evidenced by the examinations all students who are not prepared to take Chemistry 401 will be required to earn credit in Chemistry 400 before enrolling in Chemistry 401.

## SCHOLARSHIP REQUIREMENTS

The School of Engineering is aware of its responsibility of training men for public service; therefore, it must hold exacting standards of achievement for those students to whom it gives its approval. Since the sciences, especially physics, chemistry, and mathematics, are the basis of any sound engineering curriculum, satisfactory work is essential in these departments during the first two years.

Engineering students must maintain an average of "C" or higher to remain in good standing in the School of Engineering. The School of Engineering reserves the right to accept toward graduation only credits with a "C" or higher grade in engineering courses, and if the student receives a grade of "D" in any non-terminal mathematics course required in his curriculum the course must be repeated before he proceeds in the sequence.

An average grade of "C" in all work required in the freshman engineering curriculum, including any courses necessary to remove entrance conditions is prerequisite to unconditional entrance into the sophomore year of the School of Engineering.

If a "C" average is not made in the freshman year, the student may continue in the freshman division the second year, subject to the ruling on scholastic probation.

He may take not more than 16 hours of credit per semester in his second (sophomore) year.

A student registered in the School of Engineering must have a "C" average in courses required in his curriculum for the two years and must maintain a "C" average each semester thereafter to continue in the School of Engineering.

## ATTENDANCE REGULATIONS

Class attendance regulations at Louisiana Tech are given in detail in the Louisiana Tech General Information Bulletin. On several occasions during the school year, however, official assemblies of engineering students or engineering convocations are scheduled. Notices of such special occasions shall be brought to the attention of students in engineering classes and posted on the official bulletin boards of Bogard Hall. The attendance of all engineering students is required.

## ADMISSION TO ADVANCED STANDING

A candidate for admission to the School of Engineering by transfer from another institution must submit a satisfactory record in scholarship and in conduct from the institution or institutions from which he wishes to transfer.

If the subjects satisfactorily passed cover in time and content certain of the required subjects in the engineering curriculum which he expects to enter, equivalent credit will be allowed.

Transfer students having completed four or more semesters of college work will be required to have an overall "C" average in order to enter the School of Engineering. All transfer students must have an average grade of "C" in all courses for which credit will be given. For all transfer

students, a one year probationary period will follow entrance, during which time a "C" average must be maintained in required courses or the student will not be permitted to continue in the School of Engineering.

## MILITARY SCIENCE CREDIT IN ENGINEERING CURRICULA

The various engineering curricula make provision for use of credit for courses in military science to the following extent:

Lower division courses in military science will be accepted in lieu of required courses in physical education, each two-semester-hour military science course being substituted for a one-semester-hour required physical education course to the extent of the four required semesters of physical education.

The twelve semester hours of advanced military science courses, when successfully completed, will be accepted, upon approval of the major department head and dean, for three semester hours of elective toward the engineering degree being pursued. Should the student, upon successful completion of the first six semester hours of advanced military science, be prevented through no fault of his own from enrolling in and completing the remaining six semester hours of advanced military science courses, the six semester hours completed shall be accepted, upon approval of the major department head and dean, for the aforementioned three semester hours of elective.

The above rules will be interpreted within the following rulings of the Deans' Council under the date of December 8, 1953:

1. A student whose military contract with the Air Force ROTC is voided for reasons beyond his control will receive credit on his curriculum for advanced ROTC courses completed.

2. A student whose military contract with the Air Force ROTC is voided for reasons within his control, including poor scholarship and misconduct, will not receive credit on his curriculum for advanced ROTC courses completed.

## CORRESPONDENCE COURSES

Engineering students are permitted to include only nine semester hours of correspondence courses for credit toward graduation in any engineering curriculum. These nine hours, or less, must be in non-technical courses, such as

history and economics, and the student must receive the approval of the Dean of Engineering in writing prior to pursuit of the correspondence work.

## EXPENSES

In addition to the regular collegiate expenses the beginner in engineering is required to purchase drawing equipment of a quality approved by the faculty. The cost of this equipment is approximately $40.00. All freshmen are required to purchase a slide rule. The cost of this instrument varies from year to year but is approximately $20.00. All Engineering Students are required to pay $1.00 per semester to cover the subscription costs of the Tech Engineer and membership dues in the Louisiana Tech Engineers' Association. This is an official charge recognized by the School. All students, on reaching the junior level, should have free access to, or possess, a typewriter for the purpose of preparing laboratory and other reports during their junior and senior years. This machine may be either portable or desk model. From time to time it may be deemed advisable to charge a small departmental fee for certain laboratory courses, to cover the cost of the materials. Graduating seniors in the School of Engineering are required to complete an Engineering Graduate Data Form and to supply the Office of the Dean with three recent application-type photographs approximately 2"x2½".

## CURRICULA

The staff of the School of Engineering, believing that the average beginning student is unprepared to select intelligently the field of engineering which he is to follow, has scheduled a basic course during the first year. All freshmen students will take essentially the same course work during the first year and thus have an opportunity to learn more specifically of each branch of engineering. In the sophomore year each will then take the curriculum as indicated in the field of his choice.

In addition to satisfactorily completing the courses specified herein for an engineering degree, the student must also complete a one-hour course, General Studies 601—Americanism vs. Communism. This additional requirement is in accordance with the ruling of the State Board of Education of Louisiana on February 28, 1961.

## STUDENT ORGANIZATIONS

The following engineering organizations are available for student participation:

La. Tech Engineers' Association, Geology Club, Student Chapter of the American Institute of Chemical Engineers, Joint Student Branch of The American Institute of Electrical Engineers and the Institute of Radio Engineers, Student Chapter of the American Society of Civil Engineers, Student Chapter of Society of Industrial Engineers, Student Chapter of the American Society of Mechanical Engineers, Student Branch of the Society of Petroleum Engineers of the A. I. M. E., Eta Kappa Nu, Pi Tau Sigma, Tau Beta Pi, Sigma Gamma Epsilon, and *The Tech Engineer* (magazine).

## SCHOLARSHIPS

In addition to the financial aid mentioned in the general catalog, certain engineering students will be eligible for the scholarships listed below:

R. C. BAKER FOUNDATION: The amount of $750 to be awarded to an outstanding senior in mechanical engineering. The amount of $750 to be awarded to an outstanding junior in mechanical engineering.

R. C. BAKER FOUNDATION: The amount of $750 to be awarded to an outstanding senior in petroleum engineering. The amount of $750 to be awarded to an outstanding junior in petroleum engineering.

DOW CHEMICAL COMPANY, LOUISIANA DIVISION: The amount of $250 to be awarded annually to each of two outstanding graduate students in chemical engineering.

JOHN R. HORTON SCHOLARSHIP: The amount of $50 to be awarded to a sophomore, junior, or senior who exhibits good scholarship and creative interest in his engineering work.

LOUISIANA ENGINEERING SOCIETY: The amount of $100 to be awarded annually to an outstanding senior.

LOUISIANA ENGINEERING SOCIETY: WOMEN'S AUXILIARY, SHREVEPORT SECTION: The amount of $100 to be awarded annually to each of two outstanding seniors from Caddo or Bossier Parishes.

THE *LOUISIANA TECH ENGINEER* SCHOLARSHIP: The amount of $440 to be awarded annually to an outstanding engineering student.

SOCONY MOBIL OIL COMPANY: The amount of $400 to be awarded to an outstanding senior in petroleum engineering.

SOUTHWESTERN ELECTRIC POWER COMPANY: The amount of $125 to be awarded to an outstanding senior

in electrical engineering whose home is in the service area of the Southwestern Electric Power Company.

SOUTHWESTERN ELECTRIC POWER COMPANY: The amount of $125 to be awarded to an outstanding senior in mechanical engineering whose home is in the area served by the Southwestern Electric Company.

UNIVERSAL OIL PRODUCTS COMPANY: Two $250 scholarships to be awarded annually to outstanding seniors in chemical engineering.

CIVIL ENGINEERING RESEARCH FELLOWSHIP: The amount of $800 to be awarded annually to a graduate student for conducting research on selected projects in Civil Engineering.

## LOUISIANA TECH COMPUTING CENTER

The Louisiana Tech Computing Center is located in laboratories of the Department of Electrical Engineering. Although direction and financing are closely connected with that department, the Center is available to all departments of the institution.

The functions of the Center are teaching, research, and service. A regularly scheduled course in programming is available to any student who has a reasonable background in mathematics, and informal instruction in programming is offered as the need arises. The facilities are used extensively by both faculty and graduate students for research projects. The Center is operated on an "open shop" basis in which programming and coding are done by the investigator himself, but every effort is made to render assistance when needed. As a service to the citizens of the state, the staff is available for undertaking outside work provided it does not interfere with the regular local activities of the Center.

For regular computational purposes, the Center has both analog and digital equipment. Analog equipment includes an assembly of 19 operational amplifiers, a function generator, a function multiplier, and recording charts. A Royal-Precision LGP-30 digital computer has been in continuous service since the fall of 1957. In 1958 and 1959, two additional computers, a Monrobot V and a Monrobot VI were added to the facilities. A Ferranti photo electric reader has recently been added to speed up the storage of programs and data, thus releasing more computer time for actual calculation.

Closely allied with the computational activities of the Center is the digital-circuit work by Electrical Engineering students and staff. Both theoretical and practical aspects

are covered. The circuitry necessary to couple the Ferranti reader to the LGP-30 was designed and built by the staff. As soon as the over-all equipment passed operational tests, it was incorporated as an active part of computational equipment of the Center. Other equipment, both new and used, is being reworked for ultimate addition to the computer facilities of the Center.

The Computing Center staff consists of Dr. David L. Johnson, Director; Mr. F. C. Roy, Associate Director; a professional engineer for operation and maintenance, and two graduate assistants.

A computer advisory committee was formed to assist in establishing operating policies for the Computing Center, to offer advice on the acquisition of new equipment, and to insure cooperation between various departments of the college which are interested in the development and use of the campus computing facility. Members of this committee are:

Dr. David L. Johnson - Chairman
Dr. Howard L. Balsley
Dr. Virgil Orr
Dr. David E. Johnson
Francis C. Roy
Dr. Charles Hooper Smith
Grover J. Trammell

# Departmental Information

## AGRICULTURAL ENGINEERING

*See School of Agriculture and Forestry Catalog*

## GENERAL ENGINEERING

The department of General Engineering administers the curriculum in Industrial Engineering, the Technical Aid curriculum, and those engineering courses that are not identified with a particular branch of engineering.

### INDUSTRIAL ENGINEERING

The aim of the Industrial Engineering curriculum is to provide a strong basic training in engineering plus knowledge of human behavior, economics, accounting, and management.

Industrial engineering deals with the efficient management of manpower, machines, materials, and money in industry. The curriculum is closely coordinated with the School of Business. It is intended that this arrangement provide a strong background in business and management in addition to a thorough training in industrial engineering technology.

The graduate of this curriculum has a wide opportunity for employment in industry. Persons predominately interested in machines may find work in tool design, materials handling, work simplification, and factory planning. Persons possessing a high degree of patience plus the ability to lead others may find interesting work in personnel relations, safety, personnel incentives, employee counseling, and job evaluation. Persons interested in accounting, finance, and management may go into positions involving cost control and economic evaluation.

### TECHNICAL AID CURRICULUM

The two-year Technical Aid curriculum is planned for those students who for one reason or another can attend college for only four semesters. It provides basic training in engineering, English, mathematics, science, and shop work. Upon the successful completion of this curriculum, the student is awarded a certificate.

The graduate of this curriculum comes under the general classification of engineering support personnel, and he may find employment as an assistant to a professional engineer in design, research, production and construction.

## CHEMICAL ENGINEERING

The aim of the curriculum in Chemical Engineering is to prepare young men for a career in the field of chemical industry.

Chemical engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of material are involved. These processes may usually be resolved into a coordinated series of unit physical operations and unit chemical processes. The work of the chemical engineer is to design, construct and operate the equipment and plants in which these series of unit operations and processes are applied. A chemical engineer is one who can make scientific applications of mathematics, physics, chemistry, and chemical engineering principles to the design and operation of such equipment and plants.

The training of the chemical engineer must cover pure and applied sciences—chemistry, physics, mathematics, general engineering, and fundamental chemical engineering. The latter is presented best by a study of material balances, energy balances, equilibria, rates of operation, and the associated equipment. These are the basic studies that may be applied to any industry. General chemical processes are also included in the laboratory and classroom work.

In order to meet newly developed interests in the chemical and related fields, elective courses are offered in radioactive isotopes, instrumentation, and industrial waste treatment.

A graduate in chemical engineering may enter industrial work as an engineer in the production department of a chemical plant or in the research and development laboratories of such industries. In addition, he is prepared for unconditional entrance to graduate schools for graduate study.

### CHEMICAL ENGINEERING
### With Minor in Nuclear Technology
### (Five-Year Program)

The chemical engineering student may, in addition to the regular Chemical Engineering curriculum, pursue 27 semester hours of selected courses in mathematics, physics, metallurgy, and fundamental courses in nuclear engineering and thus obtain a Bachelor of Science Degree in Chemical Engineering with a minor in Nuclear Technology.

## CIVIL ENGINEERING

Civil engineers, as builders, are primarily concerned with the professional aspects of construction. Civil engineers conceive the design, supervise the preparation of plans, and supervise the construction of public structures and transportation systems that are so vital to our society. Familiar examples of these are: large buildings, bridges, highways, railroads, airports, dams, and public utility systems. Much of the civil engineer's work involves teamwork with scientists and other branches of engineering. For example, around atomic reactors civil engineers build massive structures to shield atomic radiation and to dispose of radioactive wastes.

The course of study in civil engineering includes civic and cultural development which prepares the graduate for growth into a position of leadership and respect in his community. Further, the curriculum provides a broad, basic knowledge of the engineering sciences so that the graduate may continue and specialize in any particular phase of civil engineering through experience gained in employment as a professional engineer. The graduate may also elect to continue and pursue his specialty as a graduate student working toward a Master of Science Degree in Civil Engineering. The civil engineering curriculum is accredited by the Engineers' Council for Professional Development.

The laboratories are well equipped to enhance teaching of the engineering sciences and to facilitate original research in more advanced work. The principal laboratories are: structural testing, soil mechanics, hydraulics, sanitary engineering, drafting, surveying, and photogrammetry.

## ELECTRICAL ENGINEERING

Electrical engineers make the energy in natural resources more readily available to society through the application of the sciences of physics and chemistry, particularly the laws of electricity and magnetism. Electrical engineering is that branch of the engineering profession which is concerned with research, development, design, operation and improvement of electrical devices.

The electrical engineering curriculum includes a variety of courses selected to give the student an adequate cultural background and a thorough knowledge of the fundamentals of physics, chemistry and mathematics. Courses in the engineering sciences emphasize such basic sciences as mechanics, thermodynamics and electrical theory as they relate to engineering problems. The fundamentals of electrical engi-

neering are taught in courses covering electromagnetic circuit and field theory, electronics, and electromechanical energy conversion. The problems of engineering analysis and design are covered in courses in electrical communications, transmission, advanced circuit analysis, and power systems. Opportunity is offered to some students to participate in research projects.

The professional engineer finds a wide variety of fields in which to practice. A partial list includes engineering research in electronic applications such as computers and methods of measurement and control; engineering development of power apparatus, communications and control equipment; engineering design of electronic equipment, servomechanisms and power machinery; engineering in manufacturing processes; application and sales engineering.

Graduation from a school accredited by the Engineers' Council for Professional Development (E.C.P.D.) is one requirement for qualifying as a Registered Professional Engineer in Louisiana as well as in most other states. Since the department of electrical engineering is accredited by E.C.-P.D., graduates from this department satisfy this condition for registration. Graduates who maintain a relatively good scholastic record are readily accepted into most graduate schools for work toward advanced degrees.

The electrical laboratories are modern and well equipped with machinery, electronic and communication equipment and instruments for testing. Special power supplies for variable d-c voltage and variable a-c voltage and frequency are available for electronic and circuit testing. A variety of the standard a-c motors, generators, transformers, and d-c motors and generators are permanently mounted in each of the two power machinery laboratories. An amplidyne, dynamotors, and selsyns are among the special machines available. The electronics laboratory is well equipped with signal generators, oscilloscopes, bridges, analyzers, and power supplies. Special equipment includes a pulse counter, dual-beam oscilloscope, Z-angle meter, a phase meter, and digital and analog computers.

## MECHANICAL ENGINEERING

Mechanical Engineering involves problems of design, manufacture, and operation of machines, and requires of the engineer a knowledge that will enable him to solve these problems in such a way that the greatest possible economy will result.

The curriculum in Mechanical Engineering is designed to give the student a knowledge of the fundamentals of Mechanical Engineering and to develop his analytical application of these fundamentals. This curriculum, approved by the Engineers Council for Professional Development, provides for a four year and one summer course of study leading to the degree of Bachelor of Science in Mechanical Engineering.

Emphasis is placed on the basic studies of mathematics, chemistry, physics, and English. A number of courses in the social sciences and humanities are included to develop a well rounded student. The course work in Engineering begins with a group of core courses that are fundamental to all branches of engineering, and progresses into more advanced studies of particular interest to Mechanical Engineers. In the senior year a number of technical electives are available to allow the student more specialized study in a chosen area of Mechanical Egineering.

The Mechanical Engineering laboratories are equipped and operated so that the student's work is correlated with his lecture courses. The Materials of Engineering laboratory is equipped with the necessary heat-treating, testing, and metallurgical equipment for treating, testing and observing metals. The manufacturing processes laboratory is equipped with modern machines and equipment for the welding, casting, forming, and machining of illustrative workpieces to develop the student's knowledge of modern production technique. In the stress analysis laboratory, stress in loaded machine elements are analyzed by use of photoelasticity, electrical and mechanical strain gauges and brittle lacquer. The laboratory is now being equipped for studies in three dimensional stress analysis by means of thermal setting, photoelastic material. The Heat Power laboratory contains various pieces of steam equipment, some of which are steam engines, steam turbines, reciprocating pumps, flowmeters, calorimeters, orifice test apparatus and heat exchange equipment. A number of motor driven centrifugal pumps are also available along with a weir pit and various weirs and water friction measuring equipment. Internal combustion equipment consists of automobile engines, several diesel engines, a complete diesel power plant, stationary type natural gas and gasoline engines, and Waukesha ASTM-CFR engine. As the student advances he is required to undertake numerous projects in the testing of lubricating oils, heating value of various fuels, knock rating of gasolines, analyses of coal, other fuels, and exhaust gases. Heat transfer tests

are conducted, including tests on refrigeration equipment. Horsepower and mechanical and thermal efficiency tests of steam and internal combustion equipment, as well as compressor tests, are performed. All tests are conducted according to the ASME codes.

The mechanical engineering graduate has broad latitude in choosing his life's work. He may go into engineering, business, manufacturing or contracting; or, he may go into professional engineering—consulting, designing, testing, and research; also he is equipped to take graduate work for specialization in any branch of Mechanical Engineering.

## PETROLEUM AND GEOLOGICAL ENGINEERING

### PETROLEUM ENGINEERING

The curriculum in Petroleum Engineering is designed to prepare the student, upon graduation, for useful employment in the petroleum and natural gas industry, particularly for the branches which are concerned with drilling, production, and transportation, by placing emphasis on the application of basic studies in mathematics, chemistry, physics, geology, and engineering sciences. The curriculum provides for a four-year course of study leading to the Bachelor of Science degree in Petroleum Engineering. It presents the necessary foundation and training to prepare a student for graduate study in the field of petroleum engineering.

The laboratory work is designed to familiarize the student with the practical and theoretical aspects of many problems encountered in the production of oil and gas. Throughout the course of study, whenever practicable, inspection trips are utilized to illustrate methods, equipment, and problems studied.

Students are encouraged to find summer employment with oil and gas companies, and are required to spend at least one ten-week period so employed, subsequent to their second semester of college work, in order to satisfy a requirement for graduation.

### GEOLOGICAL ENGINEERING

The curriculum in Geological Engineering is designed to prepare the student upon graduation, for useful employment in the application of geology to engineering work and in the mineral industries by placing emphasis on the application of basic studies in mathematics, chemistry, physics, geology, and engineering sciences. Employment opportunities are open to Geological Engineers in oil and mining companies, engineering construction companies, public utilities, and federal, state, and municipal agencies. The cur-

riculum provides for a four-year and one summer course of study leading to the Bachelor of Science degree in Geological Engineering. It presents the necessary foundation and training to prepare a student for graduate study in the fields of geology and geological engineering.

## DEPARTMENT OF ENGINEERING RESEARCH

Dr. Virgil Orr, Head

The Department of Engineering Research was created in 1953 in recognition of the importance of fundamental and applied research to the world of science and of the importance of the professional development of a competent faculty through the performance of research. The purpose of the department is to encourage, promote, and facilitate the performance of original research by members of the faculty of the School of Engineering and to expedite in every way possible the dissemination of the knowledge thus gained through publication in the appropriate media. The activities of the department are directed by the Research Coordinating Committee, composed of the Engineering Academic Department Heads with the Head of Engineering Research serving as Chairman of the group. This committee is responsible to the dean of the School of Engineering.

The financial support of research projects is derived from two primary sources: (a) the operating budget of the Research Department, which in some cases merely provides continuity, and (b) sponsorship of a project by an interested outside agency, usually governmental or industrial.

## JOINT CURRICULA OFFERED BY THE SCHOOL OF ENGINEERING AND SCHOOL OF BUSINESS ADMINISTRATION

The School of Engineering in cooperation with the School of Business Administration has arranged four curricula which will enable students who desire to do so, to obtain a degree in one of four fields of Engineering and a degree in Business Administration. This program of study requires five and a half years for completion, at which time the two degrees are awarded. These curricula are jointly administered by the two schools. The four departments of the School of Engineering offering these joint curricula are: Chemical, Civil, Electrical, and Mechanical. A listing of courses by semesters for these four five-and-one-half-year dual curricula may be found in this bulletin.

The increasing size and complexity of industrial and manufacturing firms is making it more and more desirable that at least some of the employees possess training both

in business and in engineering. In order to provide graduates with such training, a number of colleges and universities with schools of engineering and business have recently begun to offer joint programs which lead to a degree in each field in five and one half years. Such programs, where offered, have met with considerable interest and success. It is felt that a graduate who has a degree in each field will have a distinct advantage in his effort to secure promotions and advancement. These joint curricula offered by the School of Engineering and the School of Business Administration here at Louisiana Tech are given so that students having time and ability necessary to pursue such a program, will have the opportunity of receiving this training.

## THE CO-OPERATIVE PLAN

The School of Engineering is cooperating with certain industrial firms in a plan of alternate periods of work and college study for students in engineering. The Co-operative Plan provides one of the best methods for integrating technical theory and practical industrial experience in a five-year educational program. Another important purpose for maintaining the Co-op Plan is to provide promising engineering students who find it financially difficult to complete their formal education an opportunity to earn money that can pay a large part, or possibly all, of their college expenses.

Although the School cannot guarantee work or stipulate compensation, every effort will be made to place the student to his best educational and financial advantage. The Co-op Plan will allow the student to have approximately a year of practical experience by the time of his graduation. In cases where the student accepts permanent employment with the cooperating company, the necessity for his taking special company orientation and training courses after graduation is eliminated. The Co-operative graduate is not obligated to accept employment with the cooperating company, nor is the company obligated to offer him permanent employment.

Each student participating in the Co-operative Plan is required to register at Louisiana Tech during the work phase.

Students from any department within the School of Engineering will be considered for participation in the Co-operative Plan provided they have completed two semesters of college work successfully with at least a grade-point average of 2.5 and are specifically recommended by the head of the department in which they plan to complete requirements for a degree. Requirements for graduation and the degree earned are the same as those for regular students pursuing

a four-year program. Individuals interested in further details should contact the Coordinator of the Co-operative Plan, School of Engineering, Louisiana Polytechnic Institute, Ruston, Louisiana.

## CURRICULA

### BASIC FIRST YEAR ENGINEERING CURRICULUM

ENGINEERING FRESHMEN ADVISORS

Francis C. Roy, Associate Professor, Electrical Engineering
Calvin A. Lemke, Assistant Professor, Civil Engineering

This first year curriculum, as noted, is required of all engineering students. These courses in the first year are intended to provide an opportunity for the student to become acquainted with basic scientific and engineering fundamentals. The engineering student may delay until the completion of the first year's work before he must indicate the engineering department in which he proposes to study and earn an engineering degree.

FRESHMAN YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemistry 401 | 3 | 3 | 4 | Chemistry 402 | 3 | 3 | 4 |
| Engineering 401 | | 1 | 1 | Engineering 403 | 3 | | 1 |
| Engineering 451 | 6 | | 2 | [2]Engineering 462 | 3 | 1 | 2 |
| English 401 | | 3 | 3 | English 402 | | 3 | 3 |
| Mathematics 540 | | 6 | 6 | Mathematics 541 | | 6 | 6 |
| [1]Physical Education 401 | 3 | | 1 | [1]Physical Education 402 | 3 | | 1 |
| | 12 | 13 | 17 | | 12 | 13 | 17 |

Semester Hours in Freshman Year

For Civil, Electrical, Industrial, Mechanical, Petroleum, and Geological Enginneering students ..... 34
For Chemical Engineering students ..... 35

[1]The student may elect Military Science (Air ROTC) in lieu of Physical Education during the Freshman and Sophomore years.

[2]Students majoring in Chemical Engineering will not schedule Engineering 462. They will schedule a 3-semester-hour non-technical course. Suggested non-technical electives are History 401, 402, 501, 502, Sociology 501, Political Science 501, Art 405, 450.

## CHEMICAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engineering 501 | | 3 | 3 | Chemical Engineering 502 | | 3 | 3 |
| Chemistry 505 | 6 | 2 | 4 | Chemical Engineering 554 | 3 | | 1 |
| English 501 or 502 | | 3 | 3 | Electrical Engineering 623 | 3 | 3 | 4 |
| Mathematics 706 | | 3 | 3 | English 603 | | 3 | 3 |
| [1]Physical Education 501 | 3 | | 1 | [2]Non-Technical Elective | | 3 | 3 |
| Physics 501 | 3 | 3 | 4 | [1]Physical Education 502 | 3 | | 1 |
| | 12 | 14 | 18 | Physics 502 | 3 | 3 | 4 |
| | | | | | 12 | 15 | 19 |

Semester hours in sophomore year ..... 37
Total semester hours ..... 72

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engineering 601 | 3 | 2 | 3 | Chemical Engineering 603 | 3 | 2 | 3 |
| Chemical Engineering 605 | | 1 | 1 | Chemical Engineering 621 | | 3 | 3 |
| Chemistry 601, 603 | 3 | 3 | 4 | Chemistry 602, 604 | 3 | 3 | 4 |
| Chemistry 611, 613 | 3 | 3 | 4 | Chemistry 612, 614 | 3 | 3 | 4 |
| Civil Engineering 521 | | 3 | 3 | Civil Engineering 622 | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 2 | 2 |
| | 9 | 15 | 18 | | 9 | 16 | 19 |

Semester hours in junior year ..... 37
Total semester hours ..... 109

PRE-SENIOR SUMMER

| | L | R | C |
|---|---|---|---|
| Chemical Engineering 606 | | 5 | 3 |
| Chemical Engineering 622 | | 5 | 3 |
| | | 10 | 6 |

Semester hours in pre-senior summer ..... 6
Total semester hours ..... 115

SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engineering 701 | | 3 | 3 | Chemical Engineering 705 | | 3 | 3 |
| Chemical Engineering 702 | | 3 | 3 | Chemical Engineering 724 | | 1 | 1 |
| Chemical Engineering 732 | | 2 | 2 | Chemical Engineering 734 | 3 | 1 | 2 |
| Chemical Engineering 751 | 6 | | 2 | Chemical Engineering 752 | 6 | | 2 |
| Economics 501 | | 3 | 3 | Chemical Engineering 762 | | | R |
| [2]Non-Technical Elective | | 2 | 2 | Economics 502 | | 3 | 3 |
| [3]Technical Elective | | 2 | 2 | Electrical Engineering 625 | | 3 | 3 |
| | | | | [2]Non-Technical Elective | | 3 | 3 |
| | 6 | 15 | 17 | | 9 | 14 | 17 |

Semester hours in senior year ..... 34
Total semester hours ..... 149

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the head of the Chemical Engineering department and must be selected from courses offered in the departments of Art, Economics, English and Foreign Languages, Psychology, or Social Sciences.

[3]All technical electives must be approved by the head of the department of Chemical Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics or Physics.

## CHEMICAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science with a Minor in Nuclear Technology)
(Five-Year Program)

| | Credit | | Credit |
|---|---|---|---|
| Chemical Engineering 710 | 3 | Mathematics 707 | 3 |
| Chemical Engineering 714 | 2 | Physics 630 | 4 |
| Chemical Engineering 720 | 3 | Physics 731 | 3 |
| Chemical Engineering 721 | 3 | [1]Technical Electives | 5 |

The regular Chemical Engineering curriculum will be required, with the student taking an additional twenty-six (26) semester hours. The total semester hours required will be one hundred seventy-five (175). The following courses will constitute the twenty-six (26) semester hours of additional work:

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

Total ..... 26

[1] All technical electives must be approved by the head of the department of Chemical Engineering and must be selected from courses offered in the departments of Engineering, Mathematics, Physics or Chemistry.

## CIVIL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

### PRE-SOPHOMORE SUMMER

| | L | R | C* |
|---|---|---|---|
| Civil Engineering 553 | 10 | | 2 |
| Civil Engineering 554 | 9 | 2 | 3 |
| Civil Engineering 555 | 9 | 2 | 3 |
| | 28 | 4 | 8 |

Semester hours in pre-sophomore summer ..... 8
Total semester hours ..... 42

### SOPHOMORE YEAR

| First Semester | L | R | C* |
|---|---|---|---|
| Civil Engineering 521 | | 3 | 3 |
| Civil Engineering 531 | | 3 | 3 |
| English 501 or 502 | | 3 | 3 |
| Mathematics 628, 706 or Electrical Engr. 740 | | 3 | 3 |
| Physics 501 | 3 | 3 | 4 |
| [1]Physical Education 501 | 3 | | 1 |
| | 6 | 15 | 17 |

| Second Semester | L | R | C |
|---|---|---|---|
| Civil Engineering 522 | | 3 | 3 |
| Civil Engineering 532 | 6 | 2 | 4 |
| English 603 | | 3 | 3 |
| Geology 411 | | 3 | 3 |
| Physics 502 | 3 | 3 | 4 |
| [1]Physical Education 502 | 3 | | 1 |
| | 12 | 14 | 18 |

Semester hours in sophomore year ..... 35
Total semester hours ..... 77

### JUNIOR YEAR

| First Semester | L | R | C* |
|---|---|---|---|
| Civil Engineering 621 | | 3 | 3 |
| Civil Engineering 622 | | 3 | 3 |
| Civil Engineering 691 | 3 | | 1 |
| Civil Engineering 693 | 6 | 1 | 3 |
| Economics 501 | | 3 | 3 |
| Mechanical Engr. 615 | | 3 | 3 |
| Speech 675 | | 2 | 2 |
| | 9 | 15 | 18 |

| Second Semester | L | R | C |
|---|---|---|---|
| Civil Engineering 610 | | 2 | 2 |
| Civil Engineering 614 | 3 | 1 | 2 |
| Civil Engineering 624 | 3 | 3 | 4 |
| Civil Engineering 646 | | 3 | 3 |
| Electrical Engr. 623 | 3 | 3 | 4 |
| [2]Non-Technical Elective | | 3 | 3 |
| | 9 | 15 | 18 |

Semester hours in junior year ..... 36
Total semester hours ..... 113

### SENIOR YEAR

| First Semester | L | R | C* |
|---|---|---|---|
| Civil Engineering 713 | 3 | 3 | 4 |
| Civil Engineering 743 | | 2 | 2 |
| Civil Engineering 765 | 6 | 2 | 4 |
| [3]Technical Elective | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 |
| | 9 | 13 | 16 |

| Second Semester | L | R | C |
|---|---|---|---|
| Civil Engineering 724 | | 1 | 1 |
| Civil Engineering 744 | | 3 | 3 |
| Engineering 731 | | 2 | 2 |
| [2]Non-Technical Elective | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 |
| [3]Technical Elective | | 2 | 2 |
| | | 17 | 17 |

Semester hours in senior year ..... 33
Total semester hours ..... 146

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

[1] Military Science (Air ROTC) may be substituted.

[2] All non-technical electives must be approved by the department head. The following are suggested: Economics 502; English 652, 718, 723; Geography 503, 525; History 401, 402, 501, 502, 607; Philosophy 601, 605; Political Science 501, 603, 610, 614; Psychology 501, 604, 714; Sociology 501, 604; or foreign languages.

[3] All technical electives must be approved by the department head. The following are suggested: Civil Engineering 701, 707, 747; Electrical Engineering 624, 625, 740; Engineering 701, 722; Mathematics 618, 628, 706, 710, 711; Mechanical Engineering 605, 607, 737; Physics 630, 631, 730, 731.

## ELECTRICAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

### SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Economics 501 | | 3 | 3 | Civil Engineering 521 | | 3 | 3 |
| Electrical Engineering 502 | 3 | 3 | 4 | Electrical Engineering 612 | 3 | 3 | 4 |
| English 501 or 502 | | 3 | 3 | English 603 | | 3 | 3 |
| Mathematics 706 | | 3 | 3 | [1]Physical Education 502 | 3 | | 1 |
| [1]Physical Education 501 | 3 | | 1 | Physics 502 | 3 | 3 | 4 |
| Physics 501 | 3 | 3 | 4 | [2]Non-Technical Elective | | 3 | 3 |
| | 9 | 15 | 18 | | 9 | 15 | 18 |

Semester hours in sophomore year ..... 36
Total semester hours ..... 70

### JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Civil Engineering 522 | | 3 | 3 | Civil Engineering 621 | | 3 | 3 |
| Electrical Engr. 611 | 3 | 3 | 4 | Electrical Engr. 654 | 3 | 3 | 4 |
| Electrical Engr. 613 | | 3 | 3 | Electrical Engr. 725 | 3 | 3 | 4 |
| Electrical Engr. 653 | | 3 | 3 | Electrical Engr. 726 | | 2 | 2 |
| Mechanical Engr. 615 | | 3 | 3 | Mechanical Engr. 616 | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| | 3 | 18 | 19 | | 6 | 17 | 19 |

Semester hours in junior year ..... 38
Total semester hours ..... 108

### SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Civil Engineering 622 | | 3 | 3 | Electrical Engr. 724 | | 1 | 1 |
| Electrical Engr. 662 | | 2 | 2 | Electrical Engr. 732 | | 3 | 3 |
| Electrical Engr. 701 | | 3 | 3 | Electrical Engr. 733 | | 3 | 3 |
| Electrical Engr. 728 or | | | | Speech 675 | | 2 | 2 |
| Electrical Engr. 731 | 3 | 2 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [3]Technical Elective | | 5 | 5 |
| [3]Technical Elective | | 3 | 3 | | | 17 | 17 |
| | 3 | 16 | 17 | | | | |

Semester hours in senior year ..... 34
Total semester hours ..... 142

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the head of the department of Electrical Engineering and must be selected from courses offered in the departments of Art, Economics, English and Foreign Languages, Psychology or Social Sciences.

[3]All technical electives must be approved by the head of the department of Electrical Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics or Physics.

# INDUSTRIAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

## SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Economics 501 | | 3 | 3 | Civil Engineering 521 | | 3 | 3 |
| English 501 or 502 | | 3 | 3 | Economics 502 | | 3 | 3 |
| Mathematics 706 | | 3 | 3 | English 603 | | 3 | 3 |
| Mechanical Engr. 551 | 6 | 1 | 3 | Industrial Engr. 501 | | 3 | 3 |
| [1]Physical Education 501 | 3 | | 1 | Mechanical Engr. 605 | | 2 | 2 |
| Physics 501 | 3 | 3 | 4 | [1]Physical Education 502 | 3 | | 1 |
| Speech 675 | | 2 | 2 | Physics 502 | 3 | 3 | 4 |
| | 12 | 15 | 19 | | 6 | 17 | 19 |

Semester hours in sophomore year ..... 38

Total semester hours ..... 72

## JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Accounting 500 | | 3 | 3 | Accounting 650 | | 3 | 3 |
| Civil Engineering 522 | | 3 | 3 | Civil Engineering 622 | | 3 | 3 |
| Electrical Engr. 623 | 3 | 3 | 4 | Electrical Engr. 625 | | 3 | 3 |
| Industrial Engr. 675 | | 3 | 3 | Industrial Engr. 701 | | 3 | 3 |
| Mathematics 628 | | 3 | 3 | Mechanical Engr 616 | | 3 | 3 |
| Mechanical Engr. 615 | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| | 3 | 18 | 19 | | | 18 | 18 |

Semester hours in junior year ..... 37

Total semester hours ..... 109

## SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Engineering 701 | | 2 | 2 | Industrial Engr. 710 | 3 | 2 | 3 |
| Industrial Engr. 631 | 3 | 2 | 3 | Industrial Engr. 724 | | 1 | 1 |
| Mechanical Engr. 701 | | 3 | 3 | Industrial Engr. 751 | 3 | 1 | 2 |
| Civil Engineering 621 | | 3 | 3 | Mechanical Engr. 717 | 3 | 2 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [3]Technical Elective | | 3 | 3 | Political Science 501 | | 3 | 3 |
| | 3 | 16 | 17 | [3]Technical Elective | | 2 | 2 |
| | | | | | 9 | 14 | 17 |

Semester hours in senior year ..... 34

Total semester hours ..... 143

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the head of the department of General Engineering and must be selected from courses offered in the departments of Art, Economics, English and Foreign Languages, Psychology, or Social Sciences.

[3]Technical electives must be approved by the head of the department of General Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics, Physics or Business Administration.

## MECHANICAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

### SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Economics 501 | | 3 | 3 | Civil Egineering 521 | | 3 | 3 |
| English 501 or 502 | | 3 | 3 | Economics 502 | | 3 | 3 |
| Mathematics 706 | | 3 | 3 | English 603 | | 3 | 3 |
| Mechanical Engr. 551 | 6 | 1 | 3 | Mechanical Engr. 605 | | 2 | 2 |
| [1]Physical Education 501 | 3 | | 1 | [1]Physical Education 502 | 3 | | 1 |
| Physics 501 | 3 | 3 | 4 | Physics 502 | 3 | 3 | 4 |
| | 12 | 13 | 17 | | 6 | 14 | 16 |

Semester hours in sophomore year ..... 33
Total semester hours ..... 67

### PRE-JUNIOR SUMMER

| | L | R | C* |
|---|---|---|---|
| Civil Engineering 522 | | 5 | 3 |
| Mechanical Engineering 607 | 5 | 2 | 2 |
| Mechanical Engineering 615 | | 5 | 3 |
| | 5 | 12 | 8 |

Semester hours in pre-junior summer ..... 8
Total semester hours ..... 75

### JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Civil Engineering 621 | | 3 | 3 | Electrical Engr. 624 | 3 | 3 | 4 |
| Civil Engineering 622 | | 3 | 3 | Mechanical Engr. 609 | | 3 | 3 |
| Electrical Engr. 623 | 3 | 3 | 4 | Mechanical Engr. 701 | | 3 | 3 |
| Mechanical Engr. 616 | | 3 | 3 | Mechanical Engr. 721 | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| Speech 675 | | 2 | 2 | | | | |
| | 3 | 17 | 18 | | 3 | 15 | 16 |

Semester hours in junior year ..... 34
Total semester hours ..... 109

### SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Electrical Engineering 625 | | 3 | 3 | Engineering 731 | | 2 | 2 |
| Mechanical Engr. 702 | 3 | 2 | 3 | Mechanical Engr. 703 | 3 | 1 | 2 |
| Mechanical Engr. 705 | | 3 | 3 | Mechanical Engr. 709 | 3 | 2 | 3 |
| Mechanical Engr. 724 | | 1 | 1 | Mechanical Engr. 723 | | 2 | 2 |
| Mechanical Engr. 751 | 6 | | 2 | Mechanical Engr. 752 | 6 | | 2 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [3]Technical Elective | | 3 | 3 | [3]Technical Elective | | 3 | 3 |
| | 9 | 15 | 18 | | 12 | 13 | 17 |

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

Semester hours in senior year ..... 35
Total semester hours ..... 144

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the head of the department of Mechanical Engineering and must be selected from the fields of history, economics, government, literature, sociology, philosophy, psychology, or fine arts.

[3]All technical electives must be approved by the head of the department of Mechanical Engineering.

## PETROLEUM ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

### SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemistry 505 | 6 | 2 | 4 | Chemistry 530 | 3 | 3 | 4 |
| Geology 411 | | 3 | 3 | Geology 412 | | 3 | 3 |
| Mathematics 706 | | 3 | 3 | Geology 421 | 3 | | 1 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [1]Physical Education 501 | 3 | | 1 | Petroleum Engr. 502 | | 2 | 2 |
| Physics 501 | 3 | 3 | 4 | [1]Physical Education 502 | 3 | | 1 |
| | 12 | 14 | 18 | Physics 502 | 3 | 3 | 4 |
| | | | | | 12 | 14 | 18 |

Semester hours in sophomore year ..... 36
Total semester hours ..... 70

### PRE-JUNIOR OR PRE-SENIOR SUMMER

Minimum of 10 Weeks Summer Practice in Industry

(No Credit)

### JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemistry 611 | | 3 | 3 | Chemistry 612 | | 3 | 3 |
| Civil Engineering 521 | | 3 | 3 | Civil Engineering 522 | | 3 | 3 |
| Economics 501 | | 3 | 3 | Electrical Engr. 623 | 3 | 3 | 4 |
| Geology 615 | 3 | 2 | 3 | Petroleum Engr. 603 | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | Petroleum Engr. 605 | 6 | 2 | 4 |
| Petroleum Engr. 611 | 3 | 2 | 3 | Speech 675 | | 2 | 2 |
| | 6 | 16 | 18 | | 9 | 16 | 19 |

Semester hours in junior year ..... 37
Total semester hours ..... 107

### SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engineering 621 | | 3 | 3 | Civil Engineering 622 | | 3 | 3 |
| English 501 or 502 | | 3 | 3 | English 603 | | 3 | 3 |
| Petroleum Engr. 701 | | 3 | 3 | Petroleum Engr. 704 | 3 | 2 | 3 |
| Petroleum Engr. 705 | | 2 | 2 | Petroleum Engr. 706 | | 2 | 2 |
| Petroleum Engr. 714 | | 2 | 2 | Petroleum Engr. 715 | 3 | | 1 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [3]Technical Elective | | 3 | 3 | [3]Technical Elective | | 3 | 3 |
| | | 19 | 19 | | 6 | 16 | 18 |

Semester hours in senior year ..... 37
Total semester hours ..... 144

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the head of the department of Petroleum and Geological Engineering and must be selected from the fields of history, government, literature, sociology, philosophy, psychology, fine arts, or foreign language.

[3]All technical electives must be approved by the head of the department of Petroleum and Geological Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics or Physics.

## GEOLOGICAL ENGINEERING CURRICULUM

(Leading to the Degree of Bachelor of Science)

### SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemistry 505 | 6 | 2 | 4 | Civil Engineering 552 | 6 | | 2 |
| Economics 501 | | 3 | 3 | English 501 or 502 | | 3 | 3 |
| Mathematics 706 | | 3 | 3 | Geography 525 | | 3 | 3 |
| Geology 411 | | 3 | 3 | Geology 412 | | 3 | 3 |
| [1]Physical Education 501 | 3 | | 1 | Geology 421 | 3 | | 1 |
| Physics 501 | 3 | 3 | 4 | Geology 422 | 3 | | 1 |
| | 12 | 14 | 18 | [1]Physical Education 502 | 3 | | 1 |
| | | | | Physics 502 | 3 | 3 | 4 |
| | | | | | 18 | 12 | 18 |

Semester hours in sophomore year ..... 36
Total semester hours ..... 70

### JUNIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engr. 621 or Petroleum Engr. 611 | | 3 | 3 | Chemistry 612 | | 3 | 3 |
| Chemistry 611 | | 3 | 3 | Civil Engineering 621 or Chemical Engineering 601 | | 3 | 3 |
| Civil Engineering 521 | | 3 | 3 | Geology 505 | 3 | 1 | 2 |
| Geology 501 | 3 | 2 | 3 | Geology 602 | 3 | 2 | 3 |
| Geology 615 | 3 | 2 | 3 | Geology 605 | | 3 | 3 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| | 6 | 16 | 18 | Petroleum Engr. 502 | | 2 | 2 |
| | | | | | 6 | 17 | 19 |

Semester hours in junior year ..... 37
Total semester hours ..... 107

### PRE-SENIOR SUMMER

| | C |
|---|---|
| Geology 620, Summer Field Course | 3 |

Semester hours in pre-senior summer ..... 3
Total semester hours ..... 110

### SENIOR YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemical Engr. 603, Civil Engr. 715, Civil Engr. 755 or Petroleum Engr. 701 | | 3 | 3 | Civil Engineering 622 | | 3 | 3 |
| English 603 | | 3 | 3 | Electrical Engineering 623 | 3 | 3 | 4 |
| Geology 604 or Geology 715 | 3 | 2 | 3 | Geology 716 or Geology 721 | | 3 | 3 |
| Petroleum Engr. 722 | | 3 | 3 | Speech 675 | | 2 | 2 |
| [2]Non-Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| [3]Technical Elective | | 3 | 3 | [2]Non-Technical Elective | | 3 | 3 |
| | 3 | 17 | 18 | | 3 | 17 | 18 |

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

Semester hours in senior year ..... 36
Total semester hours ..... 146

[1]Military Science (Air ROTC) may be substituted.
[2]All non-technical electives must be approved by the head of the department of Petroleum and Geological Engineering and must be selected from the fields of history, government, literature, sociology, philosophy, psychology, fine arts, or foreign language.
[3]All technical electives must be approved by the head of the department of Petroleum and Geological Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics, Physics, or Chemistry.

## TECHNICAL-AID CURRICULUM

### FRESHMAN YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Chemistry 407 | 3 | 2 | 3 | Chemistry 408 | 3 | 2 | 3 |
| Engineering 401 | | 1 | 1 | Civil Engineering 552 | 6 | | 2 |
| Engineering 451 | 6 | | 2 | Engineering 402 | | 3 | 3 |
| English 401 | | 3 | 3 | Engineering 452 | 6 | | 2 |
| Mathematics 401 | | 3 | 3 | English 402 | | 3 | 3 |
| Mathematics 402 | | 3 | 3 | Mechanical Engr. 562 | 6 | | 2 |
| [1]Physical Education 401 | 3 | | 1 | [1]Physical Education 402 | 3 | | 1 |
| | 12 | 12 | 16 | | 24 | 8 | 16 |

Total semester hours in freshman year ..... 32

### SOPHOMORE YEAR

| First Semester | L | R | C* | Second Semester | L | R | C |
|---|---|---|---|---|---|---|---|
| Electrical Engineering 503 | 3 | 5 | 6 | Electrical Engineering 504 | 3 | 3 | 4 |
| Engineering 462 | 3 | 1 | 2 | Electrical Engineering 551 | 3 | | 1 |
| Mechanical Engr. 501 | | 3 | 3 | Mechanical Engr. 502 | | 3 | 3 |
| Mechanical Engr. 580 | 3 | | 1 | Mechanical Engr. 503 | 3 | 3 | 4 |
| [1]Physical Education 501 | 3 | | 1 | [1]Physical Education 502 | 3 | | 1 |
| Physics 509 | 3 | 3 | 4 | Physics 510 | 3 | 3 | 4 |
| | 15 | 12 | 17 | | 15 | 12 | 17 |

Semester hours in sophomore year ..... 34
Total semester hours ..... 66

[1]Military Science (Air ROTC) may be substituted.

## Curricula offered Jointly by The School of Engineering and The School of Business Administration

## CHEMICAL ENGINEERING AND BUSINESS CURRICULUM

(Leading to B.S. in Chemical Engineering and B.S. in Business Administration—Five-and-One-Half-Year Program)

### FIRST YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemistry 401 | 4 | Chemistry 402 | 4 |
| Engineering 401 | 1 | Engineering 403 | 1 |
| Engineering 451 | 2 | English 402 | 3 |
| English 401 | 3 | Mathematics 541 | 6 |
| Mathematics 540 | 6 | [1]Physical Education 402 | 1 |
| [1]Physical Education 401 | 1 | Office Administration 501 or502 | 2 |
| | | [2]Non-Technical Elective | 2 |

Semester hours in first year ..... 36

*L—Laboratory class hours per week.
R—Recitation, lecture class hours per week.
C—Credit—semester hours.

## SECOND YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 501 | 3 | Accounting 502 | 3 |
| Chemical Engineering 501 | 3 | Chemical Engineering 502 | 3 |
| Mathematics 706 | 3 | Chemical Engineering 554 | 1 |
| Physical Education 501 | 1 | Chemistry 505 | 4 |
| Physics 501 | 4 | [1]Physical Education 502 | 1 |
| [2]Non-Technical Elective | 3 | Physics 502 | 4 |
| | | [2]Non-Technical Elective | 3 |

Semester hours in second year ..... 36

## THIRD YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 610 or 611 | 3 | Accounting 650 | 3 |
| Chemical Engineering 601 | 3 | Chemical Engineering 603 | 3 |
| Chemistry 601, 603 | 4 | Chemical Engineering 621 | 3 |
| Economics 501 | 3 | Chemistry 602, 604 | 4 |
| Electrical Engineering 623 | 4 | Economics 502 | 3 |
| | | English 501 or 502 | 3 |

Semester hours in third year ..... 36

## FOURTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemical Engineering 622 | 3 | Chemical Engineering 702 | 3 |
| Chemical Engineering 701 | 3 | Chemistry 612, 614 | 4 |
| Chemistry 611, 613 | 4 | Civil Engineering 622 | 3 |
| Civil Engineering 521 | 3 | Finance 618 | 3 |
| Finance 612 | 3 | Management 670 or 671 | 3 |
| Management 610 | 3 | | |

Semester hours in fourth year ..... 35

## FIFTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemical Engineering 732 | 2 | Chemical Engineering 724 | 1 |
| Chemical Engineering 751 | 2 | Chemical Engineering 734 | 2 |
| Law 645 | 3 | Chemical Engineering 752 | 2 |
| Statistics 629 | 4 | Chemical Engineering 762 | R |
| Marketing 600 | 3 | General Business 605 | 3 |
| [3]Technical Elective | 4 | Law 646 | 3 |
| | | Statistics 630 or Economics 608 or Marketing 620 | 3 |
| | | Management 675 or Marketing 607 | 3 |

Semester hours in fifth year ..... 35

## SIXTH YEAR

First Semester

| | | | |
|---|---|---|---|
| Chemical Engineering 705 | 3 | Management 631 or 710 or 760 | 3 |
| Electrical Engineering 625 | 3 | Law 641 | 3 |
| | | [3]Technical Elective | 3 |

Semester hours in sixth year ..... 15

Total semester hours for both degrees ..... 193

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*L—Laboratory class hours per week.

R—Recitation, lecture class hours per week.

C—Credit—semester hours.

[1]Military Science (Air ROTC) may be substituted.
[2]All non-technical electives must be approved by the department head. See Chemical Engineering curriculum.
[3]All technical electives must be approved by the head of the department of Chemical Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics or Physics.

## CIVIL ENGINEERING AND BUSINESS CURRICULUM

(Leading to B.S. in Civil Engineering and B.S. in Business Administration—Five-year program.)

### FIRST YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemistry 401 | 4 | Chemistry 402 | 4 |
| Engineering 401 | 1 | Engineering 462 | 2 |
| Engineering 451 | 2 | English 402 | 3 |
| English 401 | 3 | Mathematics 541 | 6 |
| Mathematics 540 | 6 | Office Administration 501 or 502 | 2 |
| [1]Physical Education 401 | 1 | [1]Physical Education 402 | 1 |
| Semester hours in first year | 35 | | |

### PRE-SOPHOMORE SUMMER

| | |
|---|---|
| Civil Engineering 553 | 2 |
| Civil Engineering 554 | 3 |
| Civil Engineering 555 | 3 |
| Semester hours in pre-sophomore summer | 8 |

### SECOND YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Economics 501 | 3 | Accounting 501 | 3 |
| Engineering 403 | 1 | Economics 502 | 3 |
| English 501 or 502 | 3 | Geology 411 | 3 |
| Mathematics 628, 706 or Electrical Engineering 740 | 3 | Marketing 600 | 3 |
| Physics 501 | 4 | Physics 502 | 4 |
| [1]Physical Education 501 | 1 | [1]Physical Education 502 | 1 |
| [2]Non-Technical Elective | 3 | | |
| Semester hours in second year | 35 | | |

### THIRD YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 502 | 3 | Accounting 610 or 611 | 3 |
| Civil Engineering 521 | 3 | Civil Engineering 522 | 3 |
| Civil Engineering 531 | 3 | Civil Engineering 532 | 4 |
| Finance 612 | 3 | Civil Engineering 622 | 3 |
| Management 610 | 3 | General Business 605 | 3 |
| Mechanical Engineering 615 | 3 | Finance 618 | 3 |
| Semester hours in third year | 37 | | |

### FOURTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 650 | 3 | Civil Engineering 610 | 2 |
| Civil Engineering 621 | 3 | Civil Engineering 614 | 2 |
| Civil Engineering 691 | 1 | Civil Engineering 624 | 4 |
| Civil Engineering 693 | 3 | Civil Engineering 646 | 3 |
| Law 645 | 3 | Electrical Engineering 623 | 4 |
| [2]Non-Technical Elective | 3 | Management 670 or 671 | 3 |
| [2]Non-Technical Elective | 3 | | |
| Semester hours in fourth year | 37 | | |

FIFTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Civil Engineering 713 | 4 | Civil Engineering 744 | 3 |
| Civil Engineering 743 | 2 | Law 641 | 3 |
| Civil Engineering 765 | 4 | Law 646 | 3 |
| Management 631 or 710 or 760 | 3 | Management 675 or Marketing 607 | 3 |
| Statistics 629 | 4 | Statistics 630 or Economics 608 or Marketing 620 | 3 |
| [3]Technical Elective | 2 | [3]Technical Elective | 2 |

Semester hours in fifth year ..... 36

Total semester hours for both degrees ..... 188

[1]Military Science (Air ROTC) may be substituted.

[2]All non-technical electives must be approved by the department head. See the Civil Engineering curriculum.

[3]All technical electives must be approved by the department head. See the Civil Engineering curriculum.

## ELECTRICAL ENGINEERING AND BUSINESS CURRICULUM

(Leading to B.S. in Electrical Engineering and B.S. in Business Administration—Five-and-One-Half-Year Program)

FIRST YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemistry 401 | 4 | Chemistry 402 | 4 |
| Engineering 401 | 1 | Engineering 462 | 2 |
| Engineering 451 | 2 | English 402 | 3 |
| English 401 | 3 | Mathematics 541 | 6 |
| Mathematics 540 | 6 | [1]Physical Education 402 | 1 |
| [1]Physical Education 401 | 1 | Office Administration 501 or 502 | 2 |

Semester hours in first year ..... 35

SECOND YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 501 | 3 | Accounting 502 | 3 |
| Economics 501 | 3 | Civil Engineering 521 | 3 |
| Electrical Engineering 502 | 4 | Economics 502 | 3 |
| Engineering 403 | 1 | Electrical Engineering 612 | 4 |
| Mathematics 706 | 3 | [1]Physical Education 502 | 1 |
| [1]Physical Education 501 | 1 | Physics 502 | 4 |
| Physics 501 | 4 | | |

Semester hours in second year ..... 37

THIRD YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Electrical Engineering 611 | 4 | Accounting 610 or 611 | 3 |
| Electrical Engineering 613 | 3 | Electrical Engineering 654 | 4 |
| Electrical Engineering 653 | 3 | Electrical Engineering 662 | 2 |
| Mechanical Engineering 615 | 3 | English 501 or 502 | 3 |
| [2]Non-Technical Elective | 3 | Management 610 | 3 |
| | | Mechanical Engineering 616 | 3 |

Semester hours in third year ..... 34

FOURTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Civil Engineering 522 | 3 | Accounting 650 | 3 |
| General Business 605 | 3 | Civil Engineering 621 | 3 |
| Electrical Engineering 725 | 4 | Electrical Engineering 701 | 3 |
| Electrical Engineering 726 | 2 | Management 670 or 671 | 3 |
| Finance 612 | 3 | English 603 | 3 |
| Marketing 600 | 3 | [2]Non-Technical Elective | 3 |

Semester hours in fourth year 36

FIFTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Civil Engineering 622 | 3 | Electrical Engineering 732 | 3 |
| Electrical Engineering 728 or Electrical Engineering 731 | 3 | Electrical Engineering 733 | 3 |
| Finance 618 | 3 | Law 646 | 3 |
| Law 645 | 3 | Management 675 or Marketing 607 | 3 |
| Speech 675 | 2 | Statistics 630 or Economics 608 or Marketing 620 | 3 |
| Statistics 629 | 4 | [3]Technical Elective | 3 |

Semester hours in fifth year 36

SIXTH YEAR

First Semester

| | | | |
|---|---|---|---|
| Electrical Engineering 724 | 1 | Management 631 or 710 or 760 | 3 |
| Law 641 | 3 | [2]Non-Technical Elective | 3 |
| | | [3]Technical Electives | 6 |

Semester hours in sixth year 16

Total semester hours for both degrees 194

[1]Military Science (Air ROTC) may be substituted.

[2]Non-technical electives must be approved by the head of the department of Electrical Engineering and must be selected from courses offered in the departments of Art, Economics, English and Foreign Languages, Psychology or Social Sciences.

[3]All technical electives must be approved by the head of the department of Electrical Engineering and must be selected from courses offered in the departments of Engineering or in the departments of Mathematics or Physics.

## MECHANICAL ENGINEERING AND BUSINESS CURRICULUM

(Leading to B.S. in Mechanical Engineering and B.S. in Business Administration—Five-and-One-Half-Year Program)

FIRST YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Chemistry 401 | 4 | Chemistry 402 | 4 |
| Engineering 401 | 1 | Engineering 462 | 2 |
| Engineering 451 | 2 | English 402 | 3 |
| English 401 | 3 | Mathematics 541 | 6 |
| Mathematics 540 | 6 | [1]Physical Education 402 | 1 |
| [1]Physical Education 401 | 1 | Office Administration 501 or 502 | 2 |

Semester hours in first year 35

SECOND YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Economics 501 | 3 | Accounting 501 | 3 |
| Engineering 403 | 1 | Civil Engineering 521 | 3 |
| English 501 or 502 | 3 | Economics 502 | 3 |
| Mathematics 706 | 3 | Mechanical Engineering 605 | 2 |
| Mechanical Engineering 551 | 3 | [1]Physical Education 502 | 1 |
| [1]Physical Education 501 | 1 | Physics 502 | 4 |
| Physics 501 | 4 | | |

Semester hours in second year 34

THIRD YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 502 | 3 | Accounting 610 or 611 | 3 |
| Civil Engineering 522 | 3 | Civil Engineering 622 | 3 |
| Electrical Engineering 623 | 4 | Electrical Engineering 624 | 4 |
| Mechanical Engineering 615 | 3 | Mechanical Engineering 607 | 2 |
| Speech 675 | 2 | Mechanical Engineering 616 | 3 |
| | | Speech 676 | 2 |

Semester hours in third year 32

FOURTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Accounting 650 | 3 | Finance 612 | 3 |
| Civil Engineering 621 | 3 | Finance 618 | 3 |
| Electrical Engineering 625 | 3 | Mechanical Engineering 701 | 3 |
| Management 610 | 3 | Mechanical Engineering 721 | 3 |
| Marketing 600 | 3 | Statistics 629 | 4 |
| Mechanical Engineering 609 | 3 | | |

Semester hours in fourth year 34

FIFTH YEAR

| First Semester | | Second Semester | |
|---|---|---|---|
| Law 641 | 3 | Law 646 | 3 |
| Law 645 | 3 | Mechanical Engineering 703 | 2 |
| Management 675 or | | Mechanical Engineering 705 | 3 |
| Marketing 607 | 3 | Mechanical Engineering 752 | 2 |
| Mechanical Enginering 702 | 3 | Statistics 630 or Economics 608 | 3 |
| Mechanical Engineering 723 | 2 | [2]Technical Elective | 3 |
| Mechanical Engineering 751 | 2 | | |

Semester hours in fifth year 32

SIXTH YEAR

| First Semester | | | |
|---|---|---|---|
| General Business 605 | 3 | Mechanical Engineering 709 | 3 |
| Management 760 or 631 or 710 | 3 | [2]Technical Elective | 3 |
| Management 670 or 671 | 3 | | |

Semester hours in sixth year 15

Total semester hours for both degrees 182

[1]Military Science (Air ROTC) may be substituted.

[2]All technical electives must be approved by the head of the department of Mechanical Engineering.

# Graduate Curricula

## DEPARTMENT OF CHEMICAL ENGINEERING

### *Admission to Graduate Study in Chemical Engineering*

For admission to graduate study for the degree of Master of Science in Chemical Engineering, the applicant must have a bachelor's degree in chemical engineering from an accredited college or university, with at least 86 semester hours of engineering and chemistry courses including the following minima: 18 hours in core-curriculum courses, 36 hours in chemical engineering, and 32 hours in related engineering and chemistry courses. The record of each prospective graduate student will be reviewed by the head of the Department of Chemical Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Chemical Engineering*

A candidate must present at least fifteen semester hours of credit in graduate level courses in chemical engineering. Twelve hours of credit may be elected upon the approval of the adviser from junior, senior, or graduate level courses in chemistry, mathematics, physics, mechanical engineering, electrical engineering, or petroleum engineering. An additional three semester hours credit must be taken in chemical engineering.

| Group I — Required 9-15 semester hours | Semester Hours |
|---|---|
| Chemical Engineering 707: Instrumentation and Automatic Process Control | 3 |
| Chemical Engineering 710: Industrial Waste Treatment | 3 |
| Chemical Engineering 712: Applied problems in Chemical Engineering | 3 |
| Chemical Engineering 714: Industrial Radioactive Isotopes | 2 |
| Chemical Engineering 720: Introduction to Nuclear Engineering | 3 |
| Chemical Engineering 721: Reactor Engineering | 3 |
| Chemistry 723: Colloid Chemistry | 3 |
| Chemistry 765: Optical Methods of Analysis | 3 |
| Mathematics 706-707: Differential Equations | 6 |
| Mathematics 710-711: Advanced Engineering Mathematics | 6 |
| Physics 730: Atomic Physics | 3 |
| Physics 731: Nuclear Physics | 3 |
| Mechanical Engineering 716: Refrigeration | 3 |
| Petroleum Engineering 603: Drilling and Production Methods | 3 |
| Petroleum Engineering 701: Petroleum Reservoir Engineering | 3 |
| Petroleum Engineering 712: Volumetric and Phase Relationships of Oil and Gas Mixtures | 3 |
| Electrical Engineering 740: Digital Computers | 3 |

| Group II — Required 9-15 semester hours | Semester Hours |
|---|---|
| Chemical Engineering 801: Advanced Unit Operations | 3 |
| Chemical Engineering 802: Diffusion Operations | 3 |
| Chemical Engineering 803: Advanced Heat Transfer | 3 |
| Chemical Engineering 804: Advanced Chemical Engineering Kinetics | 3 |
| Chemical Engineering 805: Petroleum Technology | 3 |
| Chemical Engineering 806: Pilot Plants and Scale-Up Methods | 3 |
| Chemical Engineering 807: Application of Partial Differential Equations to Chemical Engineering Problems | 3 |
| Chemical Engineering 808: Linear Programming | 2 |
| Chemical Engineering 822: Advanced Thermodynamics | 3 |
| Chemical Engineering 824, 825, 826: Seminar (each) | 1 |
| Chemical Engineering 850: Special Problems | 1-4 |

| Group III — Required 6 semester hours | Semester Hours |
|---|---|
| Chemical Engineering 851: Research | 3 |
| Chemical Engineering 852: Thesis | 3 |

## DEPARTMENT OF CIVIL ENGINEERING

### *Admission to Graduate Study in Civil Engineering*

For admission to graduate study for the degree of Master of Science in Civil Engineering, the applicant must have a bachelor's degree in civil engineering from an accredited college or university, with at least 69 semester hours of engineering courses including the following minima: 15 hours in core-curriculum courses, 35 hours in civil engineering, and 12 hours in related engineering courses. The record of each prospective graduate student will be reviewed by the head of the Department of Civil Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Civil Engineering*

A candidate must present at least fifteen semester hours of credit in graduate level courses in civil engineering. Fifteen hours of credit may be elected upon the approval of the adviser from junior, senior, or graduate level courses in bacteriology, engineering, management, mathematics, or physics, three of which must be from civil engineering.

| Group I — Required 5-12 semester hours | Semester Hours |
|---|---|
| Civil Engineering 701: Photogrammetry | 2 |
| Civil Engineering 707: Advanced Strength of Materials | 3 |
| Civil Engineering 717: Sanitary Engineering Design | 3 |
| Civil Engineering 734: Traffic Engineering | 3 |
| Civil Engineering 737: Highway and Airport Engineering | 3 |
| Civil Engineering 745: Introduction to Mechanics of a Continuous Medium | 2 |
| Civil Engineering 746: Indeterminate Structures | 2 |
| Civil Engineering 756: Hydraulics of Open Channels | 3 |

| Group II — Required 6-10 semester hours | Semester Hours |
|---|---|
| Bacteriology 601: Sanitary Bacteriology | 3 |
| Bacteriology 630: Advanced Bacteriology | 3 |
| Management 670: Personnel Administration | 3 |
| Mathematics 706: Differential Equations | 3 |
| Mathematics 707: Partial Differential Equations | 3 |
| Mathematics 710: Advanced Engineering Mathematics | 3 |
| Mathematics 714: Numerical Analysis | 3 |
| Mathematics 814: Vector and Tensor Analysis | 3 |
| Mathematics 824: Selected Topics in Mathematics of Computers | 3 |
| Physics 630: Modern Physics | 4 |

| Group III — Required 9-15 semester hours | Semester Hours |
|---|---|
| Civil Engineering 801: Frame Analysis | 3 |
| Civil Engineering 803: Advanced Reinforced Concrete | 3 |
| Civil Engineering 810: Advanced Soil Mechanics | 3 |
| Civil Engineering 821: Highway Materials | 3 |
| Civil Engineering 831: Highway Systems | 3 |
| Civil Engineering 835: Sanitary Engineering-Water Supply | 3 |
| Civil Engineering 836: Sanitary Engineering—Sewerage | 3 |
| Civil Engineering 841: Advanced Hydraulics Laboratory | 3 |
| Civil Engineering 850: Special Problems | 3 |

| Group IV — Required 6 semester hours | Semester Hours |
|---|---|
| Civil Engineering 851: Research | 3 |
| Civil Engineering 852: Thesis | 3 |

## DEPARTMENT OF ELECTRICAL ENGINEERING

### *Admission to Graduate Study in Electrical Engineering*

For admission to graduate study for the degree of Master of Science in Electrical Engineering, the applicant must have a bachelor's degree in electrical engineering from an accredited college or university, with at least 72 semester hours of engineering courses including the following minima: 20 hours in core-curriculum courses, 35 hours in electrical engineering, and 12 hours in related engineering courses. The record of each prospective graduate student will be reviewed by the head of the Department of Electrical Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Electrical Engineering*

A candidate must present at least fifteen semester hours in graduate level courses in electrical engineering. Fifteen hours of credit may be elected upon the approval of the adviser from junior, senior, or graduate level courses in engineering, mathematics, and physics, three of which must be in electrical engineering.

| Group I — Required up to 15 semester hours | Semester Hours |
|---|---|
| Electrical Engineering 700: Special Problems | 3 |
| Electrical Engineering 701: Electric and Magnetic Fields | 3 |
| Electrical Engineering 702: Electrical Machine Design | 3 |

Electrical Engineering 716: Illumination ..... 3
Electrical Engineering 727: Power Systems ..... 3
Electrical Engineering 730: Communications I ..... 3
Electrical Engineering 731: Communications II ..... 3
Electrical Engineering 732: Automatic Control Circuits ..... 3
Electrical Engineering 733: Electrical Networks ..... 3
Electrical Engineering 734: Electronics III ..... 3
Electrical Engineering 735: Transistor Electronics ..... 3
Electrical Engineering 736: Analog Computers ..... 3
Electrical Engineering 737: Digital Control Circuits ..... 3
Electrical Engineering 738: Electrical Transients ..... 3
Electrical Engineering 740: Digital Computers ..... 3
Mathematics 707: Partial Differential Equations ..... 3
Mathematics 708: Theory of Equations and Determinants ..... 3
Mathematics 710: Advanced Engineering Mathematics ..... 3
Mathematics 711: Advanced Engineering Mathematics ..... 3
Mathematics 714: Numerical Analysis ..... 3
Mathematics 716: Modern Algebra ..... 3
Mathematics 720: Advanced Calculus ..... 3
Mathematics 724: Analog Computer Techniques ..... 3
Mathematics 725: Digital Computer Techniques ..... 3
Mathematics 728: Mathematical Statistics ..... 3
Mathematics 740: Operations Analysis I ..... 3
Mathematics 741: Operations Analysis II ..... 3
Mechanical Engineering 733: Mechanical Vibrations ..... 3
Physics 703: Electricity and Magnetism ..... 3

Group II — Required 9-24 semester hours — Semester Hours

Chemical Engineering 808: Linear programming ..... 2
Electrical Engineering 801: Servomechanisms ..... 3
Electrical Engineering 802: Network Synthesis ..... 3
Electrical Engineering 803: Information Theory ..... 3
Electrical Engineering 804: Systems Engineering ..... 3
Electrical Engineering 805: Solid-State Electronics ..... 3
Electrical Engineering 806: Electromechanical Energy Conversion ..... 3
Electrical Engineering 807: Digital Computer Circuits ..... 3
Electrical Engineering 808: Selected Techniques ..... 1-4
Electrical Engineering 824, 825, 826: Seminar (Each) ..... 1
Electrical Engineering 850: Special Problems ..... 1-4
Mathematics 806: Ordinary Differential Equations ..... 3
Mathematics 814: Vector and Tensor Analysis ..... 3
Mathematics 824: Selected Topics in Mathematics of Computers 3
Mathematics 842: Theory of Functions of Complex Variables 3
Mathematics 862: Linear Algebra and Matrix Theory ..... 3
Mechanical Engineering 801: Kinematic Synthesis of Mechanisms ..... 3
Mechanical Engineering 833: Dynamics of Machinery ..... 3
Physics 811: Electromagnetic Theory ..... 3

Group III — Required 6 semester hours — Semester Hours

Electrical Engineering 851: Research ..... 3
Electrical Engineering 852: Thesis ..... 3

## DEPARTMENT OF MECHANICAL ENGINEERING

*Admission to Graduate Study in Mechanical Engineering*

For admission to graduate study for the degree of Master of Science in Mechanical Engineering, the applicant must have a bachelor's degree in mechanical engineering

from an accredited college or university, with at least 72 semester hours of engineering courses including the following minima: 20 hours in core-curriculum courses, 40 hours in mechanical engineering, and 12 hours in related engineering courses. The record of each prospective graduate student will be reviewed by the head of Department of Mechanical Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Mechanical Engineering*

A candidate must present at least fifteen semester hours of credit in graduate level courses in mechanical engineering. Fifteen hours of credit may be elected upon the approval of the adviser from junior, senior, or graduate level courses in chemistry, mathematics, physics, chemical engineering, civil engineering, electrical engineering, and industrial engineering, three of which must be in mechanical engineering.

| Group I — Required 3-9 semester hours | Semester Hours |
|---|---|
| Mechanical Engineering 716: Refrigeration | 3 |
| Mechanical Engineering 721: Heat Transfer | 3 |
| Mechanical Engineering 725: Steam and Gas Turbines | 3 |
| Mechanical Engineering 731: Principles of Servomechanisms | 3 |
| Mechanical Engineering 733: Mechanical Vibrations | 3 |
| Mechanical Engineering 735: Internal Combustion Engines | 3 |
| Mechanical Engineering 737: Engineering Analysis | 3 |
| Mechanical Engineering 741: Heating, Ventilating and Air Conditioning | 3 |

| Group IIa — Required 6-12 semester hours | Semester Hours |
|---|---|
| Chemistry 611: Physical Chemistry | 3 |
| Mathematics 707: Differential Equations | 3 |
| Mathematics 708: Theory of Equations | 3 |
| Mathematics 710: Advanced Engineering Mathematics | 3 |
| Mathematics 711: Advanced Engineering Mathematics | 3 |
| Mathematics 720: Advanced Calculus | 3 |
| Mathematics 806: Ordinary Differential Equations | 3 |
| Mathematics 814: Vector and Tensor Analysis | 3 |
| Mathematics 824: Selected Topics in Mathematics of Computers | 3 |
| Mathematics 838: Theory of Functions of Real Variables | 3 |
| Mathematics 842: Theory of Functions of Complex Variables | 3 |
| Physics 704: Physical Optics | 3 |
| Physics 720: Physical Mechanics | 3 |
| Physics 730E: Modern Physics for Engineers | 3 |
| Physics 731E: Modern Physics for Engineers | 3 |
| Physics 812: X-Rays | 3 |
| Physics 821: Theoretical Mechanics | 3 |

| Group IIb — Required up to 6 semester hours | Semester Hours |
|---|---|
| Chemical Engineering 707: Instrumentation and Automatic Process Control | 3 |

Chemical Engineering 720: Introduction to Nuclear Engineering 3
Chemical Engineering 721: Reactor Engineering ..... 3
Civil Engineering 707: Advanced Strength of Materials ..... 3
Civil Engineering 741: Structural Engineering ..... 3
Civil Engineering 742: Structural Engineering ..... 3
Electrical Engineering 732: Industrial Electronics and Control .. 3
Electrical Engineering 740: Digital Computers ..... 3
Industrial Engineering 710: Factory Planning ..... 3
Industrial Engineering 750: Tool Engineering ..... 4

Group III — Required 9-12 semester hours — Semester Hours

Mechanical Engineering 801: Kinematic Synthesis Mechanisms 3
Mechanical Engineering 802: Advanced Machine Design ..... 3
Mechanical Engineering 803: Advanced Heat Transfer ..... 3
Mechanical Engineering 815: Advanced Thermodynamics ..... 3
Mechanical Engineering 824, 825, 826: Graduate Seminar (each) 1
Mechanical Engineering 833: Dynamics of Machinery ..... 3
Mechanical Engineering 850: Special Problems ..... 1-4

Group IV — Required 6 semester hours — Semester Hours

Mechanical Engineering 851: Research ..... 3
Mechanical Engineering 852: Thesis ..... 3

## DEPARTMENT OF PETROLEUM AND GEOLOGICAL ENGINEERING

### *Admission to Graduate Study in Petroleum Engineering*

For admission to graduate study for the degree of Master of Science in Petroleum Engineering, the applicant must have a bachelor's degree in petroleum engineering from an accredited college or university, with at least 72 semester hours of engineering and geology courses including the following minima: 25 hours in core-curriculum courses, 25 hours in petroleum engineering, 6 hours of related engineering courses, and 10 hours in geology. The record of each applicant will be reviewed by the head of the Department of Petroleum and Geological Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Petroleum Engineering*

A candidate must present at least eighteen semester hours of credit in petroleum engineering, at least fifteen of which must be at a graduate level. An additional twelve hours of credit may be elected upon the approval of the adviser from junior, senior, or graduate level courses in chemistry, civil engineering, electrical engineering, geology, mathematics, mechanical engineering, petroleum engineering, and physics.

Group I — Required 3 semester hours — Semester Hours

Petroleum Engineering 704: Petroleum Technology and Design 3

Petroleum Engineering 705: Well Logging Methods ..... 2
Petroleum Engineering 706: Evaluation of Oil and Gas Properties ..... 2
Petroleum Engineering 812: Composition and Properties of Oil Well Drilling Fluids ..... 3
Petroleum Engineering 823: Surface Properties of Reservoir Rocks and Fluids ..... 3
Petroleum Engineering 850: Special Problems ..... 3

Group II — Required 12 semester hours — Semester Hours

Chemistry 612: Physical Chemistry ..... 3
Chemistry 720: Chemical Thermodynamics ..... 3
Chemistry 723: Colloids ..... 3
Chemistry 755: Electrical Method of Analysis ..... 3
Geology 602: Introduction to Paleontology ..... 3
Geology 604: Introduction to Paleontology ..... 3
Geology 605: Principles of Stratigraphy and Sedimentation ..... 3
Geology 703: Petroleum Geological Structures ..... 3
Geology 707: Geological Subsurface Correlation ..... 3
Geology 710: Economic Geology ..... 3
Geology 715: Advanced Stratigraphy of North America (Pre-Cambrian and Paleozoic) ..... 3
Geology 716: Advanced Stratigraphy of North America (Mesozoic and Cenozoic) ..... 3
Geology 721: Micropaleontology ..... 3
Civil Engineering 707: Advanced Strength of Materials ..... 3
Civil Engineering 715: Soil Mechanics ..... 4
Civil Engineering 741: Structural Engineering ..... 3
Civil Engineering 742: Structural Engineering ..... 3
Electrical Engineering 615: Electronics ..... 4
Electrical Engineering 653: Electronics I ..... 3
Electrical Engineering 654: Electronics II ..... 4
Electrical Engineering 734: Electronics III ..... 3
Electrical Engineering 735: Transistor Electronics ..... 3
Electrical Engineering 736: Analog Computers ..... 3
Electrical Engineering 737: Digital Control Circuits ..... 3
Electrical Engineering 738: Electrical Transients ..... 3
Electrical Engineering 740: Digital Computers ..... 3
Mathematics 706: Ordinary Differential Equations ..... 3
Mathematics 707: Partial Differential Equations ..... 3
Mathematics 710: Advanced Engineering Mathematics ..... 3
Mathematics 711: Advanced Engineering Mathematics ..... 3
Mathematics 714: Numerical Analysis ..... 3
Mathematics 814: Vector and Tensor Analysis ..... 3
Mathematics 842: Theory of Functions of Complex Variables 3
Mechanical Engineering 641: Internal Combustion Engines ..... 3
Mechanical Engineering 701: Engineering Kinematics ..... 3
Mechanical Engineering 702: Machine Design ..... 3
Mechanical Engineering 703: Machine Design ..... 3
Mechanical Engineering 716: Refrigeration ..... 3
Mechanical Engineering 721: Heat Transfer ..... 3
Mechanical Engineering 733: Mechanical Vibration ..... 3
Physics 607: Heat ..... 4
Physics 615: Radio ..... 4
Physics 630: Modern Physics ..... 4
Physics 631: Modern Physics ..... 4
Physics 701: Experimental Physics ..... 1
Physics 704: Optics ..... 4

Physics 720: Physical Mechanics ..... 4
Physics 730: Atomic Physics ..... 3
Physics 731: Nuclear Physics ..... 3

Group III — Required 9 semester hours — Semester Hours

Petroleum Engineering 801-802: Advanced Reservoir Engineering ..... 6
Petroleum Engineering 821: Advanced Natural Gas Engineering ..... 3

Group IV — Required 6 semester hours — Semester Hours

Petroleum Engineering 851: Research ..... 3
Petroleum Engineering 852: Thesis ..... 3

### *Admission to Graduate Study in Geological Engineering*

For admission to graduate study for the degree of Master of Science in Geological Engineering, the applicant must have a bachelor's degree in geological engineering from an accredited college or university, with at least 68 semester hours in engineering and geology including the following minima: 34 hours in core-curriculum courses, 6 hours in related engineering courses, and 28 hours in geology. The record of each applicant will be reviewed by the head of the Department of Petroleum and Geological Engineering and the dean of the School of Engineering, who will determine which courses to include in each category and what deficiencies will need to be removed.

### *Curriculum for the Master of Science Degree in Geological Engineering*

A candidate must present at least eighteen semester hours of credit in engineering, at least fifteen of which must be at a graduate level. An additional twelve hours may be elected upon the approval of the adviser from junior, senior, and graduate level courses in chemistry, civil engineering, geology, mathematics, petroleum engineering, and physics.

Group I — Required 6 semester hours — Semester Hours

Geology 605: Principles of Stratigraphy and Sedimentation ..... 3
Geology 615: Structural Geology ..... 3
Geology 703: Petroleum Geological Structures ..... 3
Geology 707: Geological Subsurface Correlation ..... 3
Geology 710: Economic Geology ..... 3
Geology 715: Advanced Stratigraphy of North America (Pre-Cambrian and Paleozoic) ..... 3
Geology 716: Advanced Stratigraphy of North America (Mesozoic and Cenozoic) ..... 3
Geology 721: Micropaleontology ..... 3
Geology 801: Optical Mineralogy ..... 3
Geology 805: Advanced Structural Geology ..... 3
Geology 807: Stratigraphy and Structure of Gulf Coast ..... 3

Group II — Required 6 semester hours — Semester Hours

Chemistry 611, 613, 612, 614: Physical Chemistry ..... 4

Chemistry 723: Colloid Chemistry ..... 3
Physics 630: Modern Physics ..... 8
Physics 604: Physical Optics ..... 4
Physics 607: Heat ..... 4
Mathematics 628: Mathematics Statistics ..... 3
Mathematics 706-707: Differential Equations ..... 6
Petroleum Engineering 611: Petroleum Reservoir Fluids ..... 3
Petroleum Engineering 701: Petroleum Reservoir Engineering 3
Petroleum Engineering 722: Introduction to Geophysical Methods ..... 3
Civil Engineering 715: Soil Mechanics ..... 4

Group III — Required 12 semester hours — Semester Hours

Geology 803: Engineering Geology* ..... 3
Petroleum Engineering 801: Advanced Reservoir Engineering 3
Petroleum Engineering 802: Advanced Reservoir Engineering 3
Petroleum Engineering 812: Composition and Properties of Oil Well Drilling Fluids ..... 3
Petroleum Engineering 821: Advanced Natural Gas Engineering ..... 3
Petroleum Engineering 823: Surface Properties of Reservoir Rocks and Fluids ..... 3
Petroleum Engineering 850: Special Problems ..... 3
Civil Engineering 810: Advanced Soil Mechanics ..... 3
Civil Engineering 841: Advanced Hydraulics ..... 3

Group IV — Required 6 semester hours — Semester Hours

Geology 851: Research* ..... 3
Geology 852: Thesis* ..... 3

*Considered to be engineering courses.

# Department of Chemical Engineering

W. W. Chew, Professor and Head of the Department
Professors Virgil Orr, and G. H. Panula
Associate Professor James W. Malone
Instructor Charles A. Killgore

## DESCRIPTION OF COURSES

*Undergraduate credit only:*

**CHEMICAL ENGINEERING:**

**501: Introduction to Chemical Engineering.** 0-3-3* Pre'q., Chem. 402, Credit or registration in Math. 540. An introduction to Chemical Engineering designed to give a broad perspective of the field. Included are the human relations, useful mathematical tools, important concepts of physics and chemistry as they apply to Chemical Engineering. Introduction of economics, material and energy balances, and equipment and machinery used in the process industries.

**502: Chemical Engineering Calculations.** 0-3-3. Pre'q., Chemical Engineering 501. Problems and recitation in material and heat balances involved in chemical processes. Application of chemical engineering and chemistry to manufacturing in the inorganic chemical industries such as acids, alkalis, common salt, ammonia, caustic soda and chlorine.

**554: Fuels and Combustion Laboratory.** 3-0-1. Pre'q., Chemical Engineering 501. A study of the standard testing methods used on fuels, petroleum products and flue gases with an introduction to engineering report writing.

**601: Unit Operations.** 3-2-3. Pre'q., Chemical Engineering 502. Quantitative problems and laboratory work to develop the principles and applications of crushing, grinding, classification, size separation, flotation, filtration, and introduction to fluid flow.

**603: Unit Operations.** 3-2-3. Pre'q., Chemical Engineering 601. Quantitative problems to develop the principles and applications of fluid flow, heat transmission, evaporation, and crystallization, including laboratory work on these unit operations.

**605: Library Materials.** 0-1-1. Bibliography sources in Chemical Engineering.

**606: Chemical Engineering Materials.** 0-3-3. Pre'q., Chem. 505 and Chemical Engineering 502. A study of important ferrous and nonferrous metals and alloys and other engineering materials as they relate to the chemical engineer. Properties of the metals and principles of metallography are treated to show the relationship of structure and heat treatment.

**621: Chemical Engineering Thermodynamics.** 0-3-3. Pre'q., Physics 502. Applications of the laws of thermodynamics to chemical engineering processes.

**622: Chemical Engineering Thermodynamics.** 0-3-3. Pre'q., Chemical Engineering 621. Application of activity, fugacity and chemical equilibria to chemical engineering processes.

*Undergraduate or graduate credit:*

**CHEMICAL ENGINEERING:**

**701: Unit Operations.** 0-3-3. Pre'q., Chemical Engineering 603. Quantitative problems to develop the principles and applications of humidification, drying, distillation, absorption, and extraction.

* First number—laboratory hours per week; second, lecture hours per week; third, credit value.

**702: Chemical Engineering Kinetics.** 0-3-3. Pre'q., Chemical Engineering 603. Kinetics of heterogeneous reactions including catalysis and absorption and catalytic vapor phase reactions. Acquisition and interpretation of rate data. Homogeneous reactor design. Mass and heat transfer in catalytic beds. Design of gas-solid catalytic reactors.

**705: Unit Processes.** 0-3-3. Pre'q., Chemistry 602. Current theories of absolute reaction rates, resonance, and molecular structure are presented for the elucidation of selected unit processes in organic chemical industries. The kinetics of reactions, optimum operating conditions, correlation of pilot plant data, corrosion, industrial economics and selection of process equipment are investigated.

**707: Instrumentation and Automatic Process Control.** 3-2-3. Pre'q., senior standing in engineering. Characteristics, limitations, and control of process variables by automatic instruments.

**710: Industrial Waste Treatment.** 0-3-3. The hydrologic cycle. Water resources. U. S. drainage basins. Stream sanitation. Sampling and analysis of wastes. Pollutional effect of various wastes. Methods of waste treatment as applied to chemical industries. Recovery of by-products.

**712: Applied Problems in Chemical Engineering.** 0-3-3. Pre'q., junior standing. Methods of handling rate processes, graphical treatment of data, nomography and numerical analysis.

**714: Industrial Radioactive Isotopes.** 0-2-2. Pre'q., junior standing. A survey of the uses and possible industrial applications of radioactive isotopes.

**720: Introduction to Nuclear Engineering.** 0-3-3. Pre'q., Chemical Engineering 714. An introductory course designed to acquaint students pursuing a conventional engineering curriculum with nuclear fission and reactors, shielding, materials of construction, instrumentation of reactors, chemical processing involved in separation of isotopes and fuel preparation and some special techniques.

**721: Reactor Engineering.** 0-3-3. Pre'q., Chemical Engineering 720. Mechanical and nuclear properties of solid and fluid reactor materials. Thermal and structural problems in reactors. Engineer ing aspects of reactor design and use of nuclear power.

**724: Seminar.** 0-1-1. Open to seniors. Opportunity is offered for technical discussion, reading of assigned papers and informal talks by instructors and professional engineers. Seminar further serves to bring the student abreast of current engineering thought.

**732, 734: Chemical Plant Design.** 0-2-2, 3-1-2. Pre'q., senior standing in chemical engineering. Comprehensive problems in kinetics, economic balance, unit operations or thermodynamics are assigned, the solution of which enables one to calculate dimensions and capacities of required plant equipment.

The plant is then designed with specifications and drawing of the equipment together with plan and elevation drawing of the plant.

**751: Unit Operations Laboratory.** 6-0-2. Pre'q., senior standing in chemical engineering. Laboratory work in humidification, drying, distillation, absorption, and extraction.

**752: Special Projects Laboratory.** 6-0-2. Pre'q., senior standing in chemical engineering. The student is enabled to demonstrate his technical development by the solution of a selected comprehensive problem. Broad latitude in the choice of problem provides the student with added incentive. The project may be the study of an industrial problem in situ, a broad study of a unit operation, the laboratory development of a new chemical or process, the improvement of an established process, or an economic study of a new proposed industry.

762: **Inspection Trips.** Non-credit. Pre'q., senior standing in Chemical Engineering.

COURSES FOR GRADUATE STUDENTS ONLY:

**CHEMICAL ENGINEERING:**

801: **Advanced Unit Operations.** 0-3-3. A more complete and advanced treatment of distillation than was possible in the undergraduate courses. Emphasis will be placed on equilibria, multicomponent systems, extractive distillation and azeotropic distillation.

802: **Diffusion Operations.** 0-3-3. Advanced study of absorption, stripping, solvent extraction, and industrial hygrometric processes.

803: **Advanced Heat Transfer.** 0-3-3. Radiation, conduction and convection, condensation and fluid film correlations from fundamental laws of energy as applied to chemical engineering problems.

804: **Advanced Chemical Engineering Kinetics.** 0-3-3. Homogenous reactions. Catalytic reactions. Mass and heat transfer in catalytic beds. Catalytic reactor design. Uncatalyzed heterogeneous reactions.

805: **Petroleum Technology.** 0-3-3. A study of the processing of petroleum. Polymerization, catalytic cracking, reforming and other unit processes. Unit operations as applied to petroleum refining. Economic of refining operations.

806: **Pilot Plants and Scale-Up Methods.** 0-3-3. Pilot plants and model. The principle of similarity. Dimensional analysis. Differential equations. The regime concept. Similarity criteria and scale equations. Extrapolation. Boundary effects. Applications. Analog models.

807: **Application of Partial Differential Equations to Chemical Engineering Problems.** 0-3-3. Formulation of partial differential equations. Solution of temperature distribution, heat transfer and diffusion problems. The Laplace-transform method of solution of heat and mass transfer problems. The calculus of finite differences applied to absorption and extraction. Numerical solution of heat and mass transfer problems.

808: **Linear Programming.** 0-2-2. Basic concepts of linear programming. The algebra of linear programming. Simplex method: general argument, fundamental theorems, geometric interpretation, finding an optimum, computation. Complete description method. Dualism. Transportation problem. Valuation problem. Refinery problems.

822: **Advanced Thermodynamics.** 0-3-3. The relations of thermodynamic properties are developed. Problems on the expansion and compression of non-gases, liquefaction, and low temperature separation are studied.

824, 825, 826: **Seminar.** 0-1-1. Surveys, investigations and discussions of current problems in chemical engineering.

850: **Special Problems.** 1-4 semester hours. Pre'q., Consent of instructor. Selected topics dealing with advanced problems in chemical engiing and design of equipment. The problems and projects will be treated by current methods used in professional practice.

851: **Research.** Three hours credit.

852: **Thesis.** Three hours credit.

# Department of Civil Engineering

R. A. Smith, Professor and Head of the Department
Professor Henry A. Kallsen; Associate Professors C. H. Edwards, R. W. McLeane, J. T. Painter; Assistant Professors H. W. Atkinson**, C. A. Lemke, C. R. Rostron; Instructor James H. Madden.

## DESCRIPTION OF COURSES

*Undergraduate credit only:*

### CIVIL ENGINEERING

**521: Mechanics.** 0-3-3.* Pre'q., Math 540. Systems of forces and couples; concept and fundamentals of static equilibrium; centroids, centers of gravity, moment of inertia of area and mass, friction.

**522: Mechanics, concluded.** 0-3-3. Pre'q., CE 521 and Math 541. Kinematics and kinetics of rectilinear, rotational, and combined motion. Work and power. Principles of impulse and momentum.

**531: Geometric Design of Routes.** 0-3-3. Pre'q., CE 553, CE 554, CE 555. Theory and computations for horizontal alignment, vertical alignment, and cross-section design as dictated by characteristics of vehicles, operators, and geographic location with reference to highways, railroads, waterways, and airports. Subgrade, base and ballast courses, and wearing surfaces.

**532: Transportation Engineering.** 6-2-4. Pre'q., CE 531. A comparative study of development, financing, economy, planning, construction, and maintenance of highways, railroads, waterways, and airports. Structural design of subgrade, base and ballast courses, and wearing surface. Student projects illustrate practical application of theory interrelationship of other civil engineering courses.

**552: General Surveying.** 6-0-2. Pre'q., Math 401-402. Not open to civil engineers. The principles and fundamental operations of surveying with compass, level, and transit. Field practice in actual surveys of land. Computations of area and drawing of plans; differential and profile leveling, and field location of contours.

**553: Engineering Measurements.** 10-0-2. Pre'q., Math 401 and 402. Theory and practice in ascertaining and recording of horizontal and vertical distances, directions, and angles. Theory of errors, cause, effect, and adjustment.

**554: Plane Surveying.** 9-2-3. Pre'q., Credit or registration in CE 553. Theory, field measurements, and computations associated with land, traverse, and topographic surveys. Determinations of areas and volumes, plans, profiles, maps, stadia, simple curves, traverse and instrument adjustments.

**555: Advanced Surveying.** 9-2-3. Pre'q., Credit or registration in CE 554. Precise horizontal and vertical control, celestial observations, geometry and interpretation of aerial photographs, electronic measurements, advanced surveying problems and computations, state plane coordinate systems.

**610: Hydrology.** 0-2-2. Pre'q., Credit or registration in CE 621. The occurrence and movement of water on and below the surface of the earth. Study of the relationships between precipitation, runoff and

* First number—laboratory hours per week; second, lecture hours per week: third, credit value.

** On Leave 1961-62

stream flow; infiltration and ground water. Hydrograph analysis and engineering applications to the control and utilization of surface and underground waters.

614: **Water Supply and Sewerage I.** 3-1-2. Pre'q., Chemistry 402. Characteristics of water and sewage, basic biological and chemical processes involved in the analysis and treatment of water and waste water population predictions, quantities of water and sewage flow.

621: **Elementary Fluid Mechanics.** 0-3-3. Pre'q., Math 541, credit or registration in CE 522. Properties of fluids, fluid statics, fluid flow and basic equations, viscosity and energy losses. Compressible flow, open channel flow and fluid measurements.

622: **Strength of Materials.** 0-3-3. Pre'q., CE 521. Shear, bending, torsion and deflection of beams and shafts. Stresses and deformations due to applied loads and temperature changes in the elastic and plastic ranges, thin wall cylinders. Combined stress. Column theory and design.

624: **Soils Engineering.** 3-3-4. Pre'q., CE 621, CE 622, and Geol. 411. Origin, characteristics, and classification of soils for engineering purposes. General study of earth masses with regard to permeability, shear, consolidation, and slope stability for the design of foundations and embankments.

641: **Plane Surveying.** 3-3-4. Pre'q., Civil Engr. 552. Measurements of lines, angles, and differences of elevation; adjustments of surveying instruments; miscellaneous surveying problems; plane table surveys; stadia method; city, topographical, and mining surveying.

642: **Route Surveying.** 6-2-4. Pre'q., Civil Engr. 641. Simple, compound, reversed and spiral curves; vertical curves, earthwork computations; slope stake setting; practical application of theory in the field; map drafting.

644: **Plane Surveying.** 3-2-3. Pre'q., Math 402. Not open to civil engineers. Measurements of lines, angles, and difference of elevation; miscellaneous surveying problems, plane table surveys, stadia methods, and special problems pertaining to forestry work.

646: **Theory of Simple Structures.** 0-3-3. Pre'q., CE 622. Reactions, shears, moments due to fixed loads; influence lines, maximum shears, moments due to live loads; dead and live load stresses in simple roof and bridge trusses.

652: **Strength of Materials Laboratory.** 3-0-1. Pre'q., credit or registration in Civil Engr. 622. Laboratory tests to show the physical properties affecting engineering design for various materials of construction, particularly steel, cast iron, concrete, and wood. Preparation of engineering reports.

655: **Highway Design.** 6-0-2. Pre'q., Civil Engr. 642. Highway planning, construction and maintenance. Design of a highway; center line plan and profile projections, cross sections and earthwork. Drainage.

681: **Civil Engineering Drawing.** 3-0-1. Pre'q., credit or registration in Civil Engr. 641. Free-hand lettering, titles, topographical conventions; realignment location and contour problems; maps, plans and profiles. Introduction to structural detail drawing.

691: **Fluid Mechanics Laboratory.** 3-0-1. Pre'q., credit or registration in CE 621. Calibration of fluid metering devices; and orifice, venturi meter and weir. Energy losses in pipes and pipe fittings. Testing of pumps and turbines, open channel flow.

693: **Engineering Materials.** 6-1-3. Pre'q., credit or registration in CE 622. A study of the properties of the materials used in civil engineering construction. Experiments are conducted in the laboratory to demonstrate the physical properties of materials.

*Undergraduate or graduate credit:*

**CIVIL ENGINEERING**

**700: City Planning.** 0-2-2. Pre'q., junior standing. Objectives and main elements of a master plan for an urban community. Special physical, social, legal, economic and administrative problems of villages and metropolitan areas to be considered by a civil engineer.

**701: Photogrammetry.** 3-1-2. Pre'q., CE 531 or senior standing. Measurements and mapping from photographs. Photo interpretation.

**707: Advanced Strength of Materials.** 0-3-3. Pre'q., CE 622. Deflection of special beams, combined stresses and theories of failures, curved flexural members, thick-walled cylinders, flat plates, unsymmetrical bending and strain energy methods used in the analysis of statically indeterminate members.

**713: Water Supply and Sewerage II.** 3-3-4. Pre'q., CE 621, CE 614, credit or registration in CE 610. Water sources; design and operation of water distribution systems and treatment facilities. Design and operation of sanitary and storm sewage collection systems and treatment facilities.

**715: Soil Mechanics.** 3-3-4. Pre'q., Civil Engr. 621, 622, and Geology 411. Origin, characteristics, and classification of soils for engineering purposes. General study of earth masses with regard to permeability, shear, consolidation, and slope stability for the design of foundations, earth dams, embankments, and highways.

**717: Sanitary Engineering Design.** 3-2-3. Pre'q., CE 713. Chemical and bacteriological analysis of water, sewage and industrial wastes applied to the design of sanitary facilities. Air pollution, refuse disposal and environmental sanitation. Laboratory determinations and inspection trips.

**724: Seminar.** 0-1-1. Open to seniors. Opportunity is offered for technical discussion, reading of assigned papers, informal talks by instructors and professional engineers, debates on matters of technical interest. Instruction in oral delivery. Seminar further serves to bring the student abreast of current engineering thought.

**731: Reinforced Concrete Construction.** 0-3-3. Pre'q., Civil Engineering 622. Concrete and steel in combination. Principles underlying the design of integral parts of reinforced concrete structures such as beams, girders, slabs, columns, footings, walls, etc. Retaining walls, long columns, flat slabs.

**732: Reinforced Concrete Buildings.** 0-3-3. Pre'q., Civil Engr. 731. The calculation of stresses resulting in complete structures of reinforced concrete, accompanied by classroom designs. Simple applications of slope deflection and moment distribution. The classical methods of analysis of statically indeterminate structures.

**733: Land Surveying.** 0-2-2. Pre'q., CE 552 or equivalent. Legal principles and terms related to the establishment of real property boundaries. Property descriptions, subdivision layout, resurveys, mineral claims.

**734: Traffic Engineering.** 3-2-3. Pre'q., CE 532. Control of vehicular and pedestrian movement on existing and future highways and streets. Pavement markings, traffic markers, signals, and signs; arterial routes, one-way streets; lighting; accident investigation; parking; laws.

**735: Higher Surveying.** 3-2-3. Pre'q., Civil Engr. 642. Triangulation, measurements and corrections for base lines, astronomical surveying, precise leveling, higher surveying problems and computations.

**737: Highway and Airport Engineering.** 3-2-3. Pre'q., CE 624. Problems of

an advanced nature in the design of modern roads and runways. Design of rigid and flexible pavements, surface and subgrade drainage, soil stabilization, wheel loads, and laws.

742: **Structural Engineering, concluded.** 0-3-3. Pre'q., Civil Engr. 646. Study of deflections of structures by methods of vitual work, area moments, conjugate beam, least work, and graphically by Williot-Mohr diagrams. Some applications of above methods of various statically indeterminate structures.

743: **Analysis of Continuous Structures.** 0-2-2. Pre'q., CE 622, 646. Slope deflection, moment distribution, shear and moment diagrams for continuous structures, limit design theory.

744: **Reinforced Concrete.** 0-3-3. Pre'q., CE 622, 743. Principles underlying the design of integral parts of reinforced concrete structures - beams, girders, slabs, columns, retaining wall and footings. Ultimate strength design.

745: **Introduction to Mechanics of a Continuous Medium.** 0-2-2. Pre'q., Math 706, 814, or permission of instructor. The mathematical notation of advanced analytical mechanics and its physical interpretation. Concept of a continuous medium. Analysis of stress and strain, change of axes, stress tensor, Mohr's circle (three dimensions), strain tensor, compatibility equations, invariants, spherical and deviatoric tensors.

746: **Indeterminate Structures.** 0-2-2. Pre'q., CE 646, or consent of instructor. Deflection of structures by virtual work, least work, area-moment methods and graphically by the Williot-Mohr diagram. Application of deflection theory in analysis of statically indeterminate structures, e.g., beams, trusses, and frames.

747: **Prestressed Concrete Structures.** 0-3-3. Pre'q., CE 731 or 744. Materials and prestressing systems; analysis and design of sections for flexure, shear, bond, and bearing; beam deflections and layouts; partial stresses and non-prestressed reinforcements; continous beams.

750: **Special Problems.** 1 to 4 hrs. credit. Pre'q., senior standing and consent of instructor. Planning, organization, and solution of problems in civil engineering.

751: **Water Supply and Sewerage.** 3-3-4. Pre'q., Civil Engr. 621. Source of water supply, and sanitary problems associated with location, construction, and operation of water supplies, purification works, and distribution systems. Sewage collection, treatment and disposal works.

756: **Hydraulics of Open Channels.** 0-3-3. Pre'q., CE 621. Uniform flow, gradually varied flow, hydraulic transients, flow around bends, flow past obstructions, and stilling basin design.

762: **Structural Design, concluded.** 6-0-2. Pre'q., Civil Engr. 646 and registration in Civil Engr. 742. Design of roof trusses, bridge trusses and plate girders. A study of practical procedures as carried out in design offices as affecting computations, details, etc., and a complete design and drawing of a roof truss is made.

765: **Structural Design and Theory.** 6-2-4. Pre'q., CE 646. Design of members and connections in steel and timber; complete design of steel roof truss; theory of columns, plate girders, unsymmetrical bending.

772: **Foundations.** 0-2-2. Pre'q., Civil Engr. 715, and Civil Engr. 731. Design and construction of footings, cofferdams, and caissons for bridges and buildings. Piers and abutments. Underpinning of buildings. Exploration and testing of foundation sites. Excavation and removal of materials from foundation sites.

COURSES FOR GRADUATE STUDENTS ONLY:

## CIVIL ENGINEERING

**801: Frame Analysis.** 0-3-3. Pre'q., CE 743. Analysis of single story and simple multi-story frames by moment distribution methods; simple applications of slope deflection method; study of frames containing variable section members; plastic methods of structural analysis.

**803: Advanced Reinforced Concrete.** 0-3-3. Pre'q., CE 744. Advanced reinforced concrete theory, including such topics as flat slabs, combined stresses, critical study of specifications.

**810: Advanced Soil Mechanics.** 0-3-3. Pre'q., CE 624. Evaluation of subsoil conditions, theory of consolidation and bearing capacity of soils; selection, application and design of foundation elements for structures.

**821: Highway Materials.** 0-3-3. Pre'q., CE 532 and CE 693. Manufacture properties, and testing of asphalts and portland cement; properties and testing of aggregates; principles, practices, testing, and theories in design, control construction of asphaltic and portland cement concrete paving mixtures.

**831: Highway Systems.** 0-3-3. Historical development and the advanced study of financing, economics, planning, and administration of rural and urban road networks.

**835: Sanitary Engineering - Water Supply.** 3-2-3. Pre'q., CE 717. Quality and conditioning of municipal and industrial water supplies; clarification, softening, filtration, disinfection, corrosion control, miscellaneous special treatments. Advanced problems in design of distribution systems and treatment facilities. Laboratory periods are for design problems and laboratory determinations.

**836: Sanitary Engineering - Waste Disposal.** 3-2-3. Pre'q., CE 717. Design of sewage and industrial waste treatment facilities; disposal of radioactive wastes. Laboratory periods are for design problems and laboratory determinations.

**841: Advanced Hydraulics Laboratory.** 9-0-3. Experimental research in selected advanced problems in hydraulics with emphasis on correlation and interpretation of observed phenomena, including similitude and prototype relationships.

**850: Special Problems.** 1 to 4 hours credit. Advanced problems in civil engineering will be assigned according to the ability and requirements of the student. An opportunity will be afforded to plan, organize, and complete solutions in problems of considerable magnitude with a view toward developing confidence and self reliance.

**851: Research.** Three hours credit.

**852: Thesis.** Three hours credit.

# Department of Electrical Engineering

D. L. Johnson, Professor and Head of the Department
Professors M. R. Johnson, A. C. Thigpen, R. M. Steere
Associate Professors F. C. Roy and J. S. Tarbutton
Assistant Professor R. H. Newell; Instructor C. J. Irby

## DESCRIPTION OF COURSES

*Undergraduate credit only:*

### ELECTRICAL ENGINEERING

**502: Electric Circuits I.** 3-3-4*. Pre'q., credit or registration in Mathematics 541. Fundamental electrical units and concepts. Basic laws electrical circuits. Electrical networks. Magnetic concepts and units. The magnetic circuit. Electromagnetic induction and forces. Electric fields.

**503: Electrical Circuits and Machines.**** 3-5-6. Pre'q., Mathematics 401, 402. Electrical fundamentals. D-c and a-c circuit analysis. Theory and application of d-c and a-c generators and motors. Transformers.

**504: Elementary Electronics.**** 3-3-4. Pre'q., E.E. 503. Basic electronic theory, rectifiers, amplifiers, oscillators, modulation and demodulation. Semiconductor devices. Transistor amplifiers. Waveshaping and control circuits.

**551: Electrical Shop.**** 3-0-1. Pre'q., E.E. 503. The use and care of tools. The Underwriters' electrical code. Installation of circuits and equipment for electric power. Electronic circuit wiring techniques.

**611: Electrical Machinery I.** 3-3-4., E.E. 612. Mechanical forces and torques due to electro-magnetic action. Electro-mechanical energy relationships in electrical devices. Basic concepts of machine performance. Introduction to machine analysis.

**612: Electric Circuits II.** 3-3-4. Pre'q., E. E. 502 and credit or registration in Mathematics 706. Transients in single energy circuits. Alternating voltage, current, and power: instantaneous, maximum, average and effective values. Complex quantities. Equivalent circuits, network theorems, resonance conditions, mesh and nodal equations, and polyphase systems.

**613: Electric Circuits III.** 0-3-3. Pre'q., E.E. 612, Mathematics 706. Coupled circuits and transformers and non-linear circuit elements. Fourier series, trigonometric and exponential, and the Fourier integral. The complex frequency plane, electric transients, hyperbolic functions, and the Laplace transformation.

**615: Electronics.** 3-3-4. Pre'q., E.E. 612. Study of electronic phenomena. Vacuum tubes, gaseous tubes, mercury-arc and specialized electron tubes; application of electronic tubes to power transformation circuits. Study of filter theory.

**621: Direct-Current Circuits and Machinery.**** 0-3-3. Pre'q., credit or registration in Mathematics 541. Electrical and magnetic units. Elementary d-c electrical circuits. Electrical work, heat and power d-c generators and motors. Regulation, efficiency, and power, with special emphasis on operating characteristics of d-c generators and motors.

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* First number—laboratory hours per week; second, lecture hours per week; third, credit value.

**Not open to Electrical Engineering majors.

622: **Alternating-Current Circuits and Machinery.**** 0-3-3. Pre'q., E.E. 621. Elementary single-phase and polyphase a-c circuits. Transmission of electrical energy over electrical systems. Operation of polyphase systems. Alternators and motors. Regulation, efficiency and power, with special emphasis on operating characteristics of a-c machinery.

623: **Electrical Systems.**** 3-3-4. Pre'q., Physics 502 and credit or registration in Mathematics 541. Introduction to vector analysis. Potential gradient. Electrostatics. Electromagnetism. Elementary electrical circuits. Network theorems. Polyphase circuits. Introduction to electronics. Introduction to information theory.

624: **Electrical Machinery.**** 3-3-4. Pre'q., E.E. 623. A study of direct-current and alternating-current machines. Generators, motors, and transformers. Regulation, efficiency, and power, with special emphasis on the working characteristics of machines and apparatus.

625: **Industrial Electronics.**** 0-3-3. Pre'q., E.E. 622 or 623. Characteristics of vacuum tubes, gaseous tubes and transistors. Electronic rectifiers, amplifiers and oscillators. Applications of electronic circuits to measurement and automatic control equipment.

651: **Direct-Current Circuits and Machinery Laboratory.**** 3-0-1. Pre'q., credit or registration in E.E. 621. Laboratory experiments illustrating the theory of d-c circuits and machinery contained in E.E. 621.

652: **Alternating-Current Circuits and Machinery Laboratory.**** 3-0-1 Pre'q., credit or registration in E.E. 622. Laboratory experiments illustrating the theory of d-c circuits and machinery contained in E.E. 622.

653: **Electronics I.** 0-3-3. Pre'q., E.E. 612. Effects of electric and magnetic fields upon electric charges. Diodes, rectifiers, filters, clipping and clamping circuits. Multielectrode tubes. Class-A and class-B ampilfier stages. R-C coupled amplifiers. Push-pull amplifiers.

654: **Electronics II.** 3-3-4. Pre'q., E.E. 653. Tuned voltage amplifiers. Tuned power amplifiers. Feedback. Sinusoidal oscillators. Relaxation oscillators. Gas-filled tubes. Photoelectric phenomena. Gate circuits. Sweep circuits. Transistors.

662: **Engineering Materials.** 0-2-2. Pre'q., Chemistry 402 and credit or registration in Physics 502 and Mathematics 541. Nature and properties of materials. Crystal structure, energy bands, boundaries, electrical effects.

## *Undergraduate or graduate credit:*

### ELECTRICAL ENGINEERING

700: **Special Problems.** 0-3-3. Pre'q., senior standing. Special problems in electrical engineering will be assigned according to the student's needs and capacities. The problems assigned will be chosen so as to promote initiative and self-reliance on the part of the student.

701: **Electric and Magnetic Fields.** 0-3-3. Pre'q., E.E. 612, Mathematics 706. Electrostatic fields. Electric current. Magnetic fields. Time-varying electric and magnetic fields. Gradient, divergence, curl. Maxwell's equations.

702: **Electrical Machine Design.** 3-2-3. Pre'q., E.E. 725. A study of the problems of analysis and design of electrical equipment considering and integrating mechanical, thermal, magnetic and electric phenomena. Supervised work on selected electrical components and devices.

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**Not open to Electrical Engineering majors.

703: **Electronics Laboratory I.** 3-0-1. Pre'q., credit or registration in E.E. 653. Closely supervised laboratory study of electronic circuits. Opportunity for individual investigation and construction of electronic apparatus.

704: **Electronic Laboratory II.** 3-0-1 Pre'q., E.E. 703. Continuation of E.E. 703.

716: **Illumination.** 3-2-3. Pre'q., E.E. 612 and Mathematics 541. Basic theory of lighting. Requirements of good lighting. Production of light. Lighting systems. Design and calculations. Industrial lighting. Residence and school lighting. Decorative lighting.

724: **Seminar.** 0-1-1. Pre'q., senior standing. Opportunity is offered for technical discussion, reading of assigned papers, informal talks by instructors and professional engineers, debates on matters of technical interest. Seminar further serves to bring the student abreast of current engineering thought.

725: **Electrical Machinery II.** 3-3-4. Pre'q., E.E. 611, 613 and Mathematics 541. Analysis of performance of synchronous machines. The synchronous tie. Revolving magnetic and electric fields. Analysis of performance of Direct Current Machines. Coupled circuit theory of transformers. The induction machine.

726: **Electrical Transmission.** 0-2-2*. Pre'q., E.E. 612. Transmission-line parameters. The telegrapher's equations. Lossless and lossy lines. Lumped-constant lines. Impedance matching analytically and by use of the Smith chart. Filter networks.

727: **Power Systems.** 0-3-3. Pre'q., E.E. 726. Power system representation. Per-unit quantities. Symmetrical components. Symmetrical faults. Unsymmetrical faults. Introduction to the stability problem.

728: **Electrical Machinery III.** 3-2-3*. Pre'q., E.E. 725. Special characteristics of synchronous, induction, and direct current machines as motors and generators. Two-reaction theory. Single-phase operation. Symmetrical components. Electrical and mechanical transients.

730: **Communications I.** 0-3-3. Pre'q., E.E. 615 or E.E. 654. Modulation and demodulation systems. Amplitude, frequency, and phase modulation. The superheterodyne. Television transmitters and receivers.

731: **Communications II.** 3-2-3. Pre'q., E.E. 701 and E.E. 726. Plane electromagnetic waves. Guided waves. Rectangular and circular waveguides. Resonant cavities. Radiation. Antennas. Microwave networks.

732: **Automatic Control Circuits.** 0-3-3. Pre'q., E.E., 654, Math 706 and E.E. 725. General aspects of analysis and design of servomechanism systems, transient analysis of servomechanisms, transfer functions, transfer function plots, single-loop systems, gain adjustment, series compensation, feedback compensation.

733: **Electric Circuits IV.** 0-3-3. Pre'q., E.E. 613. Transient and steady-state solutions of lumped-constant networks using Laplace transforms. Duality. Matrices. Introduction to network functions. Circuit synthesis.

734: **Electronics III.** 0-3-3. Pre'q., E.E. 654. High-frequency amplifiers, distributed-constant, UHF, and traveling-wave amplifers. Klystron, magnetron ,and backward-wave oscillators.

735: **Transistor Electronics.** 0-3-3. Pre'q., E.E. 654. Various forms and types of transistors and their characteristics. Basic transistor circuitry. The transistor as an amplifier of direct current, low-frequency alternating current, and high-frequency current. Transistor oscillators, power amplifiers, and video amplifiers.

736: **Analog Computers.** 0-3-3. Pre'q., E.E. 653 and Mathematics 706 or permission of instructor. An introduction to the use of the elec-

tronic analog computer for solving linear and non-linear ordinary differential equations. Adding, multiplying, differentiating, integrating, and complex transfer generating circuits.

737: **Digital Control Circuits.** 0-3-3. Pre'q., E.E. 653. Boolean algebra applied to switching. Arithmetic processes in digital computers. "and," "or," and "not" circuits. Sequential, translation, and memory circuits.

738: **Electrical Transients.** 0-3-3. Pre'q., E.E. 613 and Mathematics 706. Single and double energy transients. Transient impedance. Laplace transform solutions. Network theorems in the s-domain. Elements of complex-variable theory.

740: **Digital Computers.** 3-2-3. Pre'q., Math. 541, Stat. 629, or permission of instructor. Introduction to the theory of digital computers. Number systems. Flow diagrams, problem preparation, and programming. Features of commercially available computers. Student use of the LGP-30 digital computer, including problems of individual interest.

COURSES FOR GRADUATE STUDENTS ONLY:

## ELECTRICAL ENGINEERING

801: **Servomechanisms.** 0-3-3. Pre'q., E.E. 725 and E.E. 733. Mathematical formulation of the control problems. Linear servo analysis and synthesis. Design criteria and optimum synthesis. Sampled data systems. Non-linear system.

802: **Network Synthesis.** 0-3-3. Pre'q., E.E. 733. Energy relations in passive networks. Realizability and synthesis of driving-point impedance and transfer functions. Synthesis for prescribed transfer functions.

803: **Information Theory.** 0-3-3. Pre'q., E.E. 733. Elementary probability theory. Random noise in systems of communication and control. Entropy and redundancy of languages and codes. Auto-and cross-correlation functions.

804: **Systems Engineering.** 0-3-3. Pre'q., Math 706 and permission of instructor. Tools of large-scale systems design. Probability theory, mathematical statistics, operations analysis, computers, simulation.

805: **Solid-State Electronics.** 0-3-3. Pre'q., permission of instructor. Band theory of semiconductors. Motion of electrons and holes in electric and magnetic fields. Point-contact and junction diodes and transistors.

806: **Electromechanical Energy Conversion.** 0-3-3. Pre'q., Math 706 and permission of the instructor. Equations of motion of electromechanical systems. Analytical techniques for solution of equations. Typical transducers. The generalized machine. System dynamics.

807: **Digital Computer Circuits.** 0-3-3. Pre'q., E.E. 737 or permission of instructor. Study of the logic of digital computers. Circuits for computation and control. Pulse circuits, memory elements, input-output systems.

808: **Selected Techniques.** 1-4 semester hours. The solution of engineering problems through practical application of such techniques as matrices and determinants, linear equations, numerical analysis, and computer methods.

824, 825, 826: **Seminar.** 0-1-1 each. Surveys, investigations, and discussion of current problems in electrical engineering.

850: **Special Problems:** 1-4 semester hours. Advanced problems in electrical engineering. The problems and projects will be treated by current methods used in professional practice.

851: **Research.** Three hours credit.

852: **Thesis.** Three hours credit.

# Department of General Engineering

H. L. Henry, Jr., Professor and Head of the Department
Associate Professors J. G. Chumley, and Lee L. Denny; Assistant Professors A. G. McKee, and J. Clark Ramsaur; Instructor Thomas D. Guthrie

## DESCRIPTION OF COURSES

*Undergraduate credit only:*

### ENGINEERING

**401: Engineering Problems.** 0-1-1*. Pre'q., credit or registration in Math. 401. Orientation to college rules and regulations and the profession of engineering. Operation and application of the slide rule to the solution of simple engineering problems.

**402: Engineering Problems.** 0-3-3. Pre'q., Engineering 401. Instruction in the solution of elementary engineering problems.

**403: Principles of Engineering.** 3-0-1. Pre'q., Math 401 and 402. Introduction to the basic ideas, principles, and methods of the engineering profession. Estimating costs and quantities, derivation of equations, dimensions and units, measurements and accuracy, energy and power, design problems, and report writing and presentation of problem solutions.

**451: Engineering Drawing.** 6-0-2. Freehand sketching and mechanical drawing. Shape and size description for engineering drawings.

**452: Engineering Drawing.** 6-0-2. Pre'q., Engr. 451. Continuation of Engr. 451, with emphasis on engineering drawing for industry.

**462: Descriptive Geometry.** 3-1-2. Pre'q., Engr.. 451. Theory of projection. Visualization of three-dimensional space relationships. Development of constructive imagination.

**671: Photography.** 3-0-1. Open to juniors. Survey of photography as related to industry. Practice in camera operation, making of negatives, printing, copying, exploded views and special techniques.

**701: Engineering Cost Analysis.** 0-2-2. Open to seniors. A study of the factors which affect the selection and replacement of engineering equipment. Analysis and comparison of the cost of various engineering alternates.

**722: Industrial Organization.** 0-3-3. Open to seniors. Principles of industrial organization and management.

**731: Contracts and Specifications.** 0-2-2. Essential elements of a contract. Labor, materials, and equipment specifications for an engineering project. Legal aspects of engineering.

**732: Estimating.** 0-2-2. Pre'q., Civil Engr. 731 and credit or registration in Engr. 731. Material take-off from blueprints and specifications. Detailed labor and material estimates for all types of engineering construction. Methods of figuring bids on engineering projects and construction.

## INDUSTRIAL ENGINEERING

*Undergraduate credit only:*

### INDUSTRIAL ENGINEERING

**501: Introduction to Industrial Engineering.** 0-3-3. Pre'q., sophomore standing. An introduction to the concepts of Industrial Engineering, stressing the modern approach to the design of work systems.

**607: Sales Engineering** (Salesmanship—same as Marketing 607). 0-3-3. Pre'q., Economics 502. Considers the salesman, merchandise, customer, and human nature; personality development emphasized; explanation of selling services, ideas, and merchandise; stress placed on proper approach, convincing argument, overcoming objections, and closing the sale.

* First number—laboratory hours per week; second, lecture hours per week; third, credit value.

631: **Motion and Time Study.** 3-2-3. Study of the methods of analyzing production processes and operations for economical operation and methods improvement. Study of the use of a slow-motion camera for micromotion analysis. Use of time studies for rating methods and standardization.

670: **Personnel Administration - Industrial Relations** (Same as Management 670). 0-3-3. Pre'q., Economics 502. Administration of the company personnel department; personnel policies; employment procedures and administration; and personnel practices and techniques furthering favorable industrial relations.

671: **Human Relations in Industry** (Same as Management 671). 0-3-3. Pre'q. Industrial Engineering 670. The art of human relations; employee work environment; problems of functionalization; quest for security; executive leadership and supervision; communication with employees; meetings and group dynamics; organization structure and charting; employee counseling; collective bargaining and grievance systems; morale and its appraisal.

675: **Production Control** (Same as Management 675). 0-3-3. Pre'q., junior standing. Management principles and methods as applied to the production and allied departments; plant layout; material handling; operation and process standardization; productive capacity; shop organization; motion and time study; and related topics affecting production.

701: **Quality Control.** 0-3-3. Pre'q., Math. 628 or Statistics 629, Mechanical Engr. 551. A study of the application of statistical techniques to the control of quality in industrial production. Sampling inspection methods. Tolerance systems. Organization for and administration of quality control.

702: **Industrial Engineering Analysis.** 0-3-3. Pre'q., I.E. 701. Design and analysis of experiments and tests in industrial plants. Selection of appropriate specifications and tolerance limits. Locating the reason for defective product. Control of industrial operations.

703: **Case Problems in Industrial Engineering.** 0-3-3. Pre'q., senior standing. A case method study of a variety of industrial engineering problems in which the student is required to make individual and group investigations.

710: **Factory Planning.** 3-2-3. Pre'q., Mechanical Engr. 551, Industrial Engr. 631 and I.E. 675. A study of the planning of a factory to provide for capacity, production machines and equipment, materials handling services, storerooms, personnel, facilities, and safety. The choice of building types and machines.

724: **Seminar.** 0-1-1. Pre'q., senior standing. Opportunity for technical discussion, reading of assigned papers, informal talks by instructors and professional engineers, debates on matters of technical interest. Current engineering thought.

725: **Industrial Safety.** 0-3-3. Pre'q., junior standing. A study of the safety movement in American Industry. Cost of accidents. Administration of safety. Engineering for safety.

726: **Materials Handling.** 0-3-3. Pre'q., Industrial Engr. 675. A study of modern materials handling methods, systems, equipment, and control.

751: **Tool Design.** 3-1-2. Pre'q., Industrial Engineering 631, Mechanical Engr. 551, and Mechanical Engr. 701. A study in the selection and design of tools, jigs, fixtures and gages. Dimensioning and tolerances. Automation.

760: **Purchasing and Materials Control** (Same as Management 760). 0-3-3. Pre'q., junior standing. Principles of procurement and analysis of problems; emphasis on organization, procedures, quality and quantity control, price policies, sources of supply, receipt, inspection, and standards of performance.

# Department of Mechanical Engineering

J. J. Thigpen, Professor and Head of the Department
Professors Joe H. Barnwell, Ben T. Bogard, John D. Calhoun, Grover J. Trammell
Associate Professors W. H. Bussell, Jr., Stewart Baggarly, E. M. Killgore;
Assistant Professor Jack Canterbury**

## DESCRIPTION OF COURSES

*Undergraduate credit only:*

### MECHANICAL ENGINEERING

**501: Heat Engineering.** 0-3-3*. Pre'q., Chem. 402. Not open to mechanical engineering majors. Basic terms and basic applications of heat, work, and power including elementary thermodynamics. Types of heat power plants and auxiliary components, properties of working mediums, fuels and combustion.

**502: Heat Engineering.** 0-3-3. Pre'q., M.E. 501. Not open to mechanical engineering majors. A continuation of M.E. 501, applying basic thermodynamic principles to steam engines, steam turbines, compressors, gas turbines, internal combustion engines and refrigeration systems. Emphasis on efficiency and economic factors.

**503: Elementary Machine Design.** 3-3-4. Not open to mechanical engineering majors. A study of tension, compression, shear and bending stresses as applied to the design of machine elements. The engineering physical properties of metals. The design and application of fastening methods and devices. The use of manufacturers catalog data for the selection of standard machine elements.

**551: Manufacturing Processes.** 6-1-3. A study of the processes of manufacture of machine parts with special emphasis on the analytical approach to manufacturing problems. The course includes classroom and laboratory assignments in foundry work, welding, forming and machine tool operation.

**562: Machine Shop Practice.** 6-0-2. A study of the processes of manumachine shop work. Practice operations are performed on the engine lathe, turret lathe, shaper, milling machine, drilling machine, tool and surface grinders. Students are assigned a project which requires selected operations on these machines.

**580: Welding Shop.** 3-0-1. Theory of welding and cutting. Practice in the operation of manual and machine cutting torches, single operator arc welders, progressive spot welders, flash welders, and inert gas arc welders.

**605: Properties of Materials.** 0-2-2. Pre'q., Chem. 402, Math. 540. The principles of the properties of engineering materials. The physicochemical foundations are used to explain the properties, (conductivity, heating, diffusivity, elasticity, etc.) of engineering materials.

**607: Materials of Engineering.** 3-1-2. Pre'q., M.E. 605. The study of the properties of engineering materials and the correlation of these properties with their atomic structures. Experiments are conducted in the laboratory to demonstrate the relation between microstructures and the physical properties of materials.

**609: Machine Design.** 0-3-3. Pre'q., C.E. 522, 622. A further study of the principles of strength of materials, dynamics, and properties of

* First number—laboratory hours per week; second, lecture hours per week; third, credit value.
** On leave 1961-62

materials. Fatigue, stress concentration, and single degree of freedom vibrations. Beam deflections by graphical integration, combined stresses, curved beams, and Castigliano's theorem. Torsion in non-circular sections, thick walled cylinders, and plates and shells.

615: **Thermodynamics.** 0-3-3. Pre'q., Math. 540 and Physics 501. A study of fundamental terms, principles and relations of heat, work and thermodynamic properties of vapors, ideal gases and mixtures of ideal gases. Both closed and open systems are considered in a development of the first and second laws of thermodynamics, entropy, reversibility, availability, efficiency and coefficient of performance.

616: **Thermodynamics.** 0-3-3. Pre'q., Mech. Engr. 615. A continuation of M.E. 615 with emphasis on applications of the principles of thermodynamics to power and refrigeration cycles, flow through nozzles and blade passages, equations of state, generalized charts, combustion and equilibrium with selected topics on the fundamentals of heat transfer.

*Undergraduate or graduate credit:*

**MECHANICAL ENGINEERING**

701: **Engineering Kinematics.** 0-3-3. Pre'q., C.E. 522. Kinematic analysis of mechanisms. The study of gears, cams, rolling curves and linkages. The use of graphical and analytical methods in determining position, velocity and acceleration. Synthesis of mechanisms to satisfy motion requirements and for function generation.

702: **Machine Design.** 3-2-3. Pre'q., credit or registration in M.E. 609 and M.E. 701. Principles of machine design as applied to machine elements. The study of fasteners, lubrication, springs and drive elements. The use of photoelasticity and strain measurement in the analysis of stresses in machine members.

703: **Machine Design.** 3-1-2. Pre'q., M.E. 702. A continuation of M.E. 702. Design of power transmission machinery involving the use of belts, chains, gears, clutches, and brakes. Complete design and detailing of some assigned machine.

705: **Thermal Engineering.** 0-3-3. Pre'q., M.E. 616. A study of the fundamental principles of heat power engineering. Energy sources, energy release, heat transfer applications, energy and momentum transfer, vapor power cycles, internal combustion cycles, refrigeration cycles, air conditioning.

709: **Heat Power Design.** 3-2-3. Pre'q., M.E. 705. The design of heat power systems with special attention given to the practices of the profession. Basic design sources and procedures for power processes, service functions, transportation, refrigeration, etc. Selected heat power design problems with emphasis on the development of professional attitudes in written and oral expression.

711: **Power Plant Engineering.** 0-3-3. Pre'q., M.E. 616. Theory and practice of the modern stationary power plant. Power plant economics. Fuels and combustion. Vapor cycles, steam generators, and prime movers. Functional relationship of auxiliary equipment.

712: **Power Plant Engineering.** 3-1-2. Pre'q., M.E. 711. The variable load problem. Selection of equipment and design of the internal combustion engine power plant. Design of equipment relating to the handling of fuel; conveyors, stokers, burners, fans, etc. Feedwater treatment and evaporators. Heating and pumping of feedwater. Piping systems. Power plant instrumentation and control.

716: **Refrigeration.** 0-3-3. Pre'q., M.E. 616. The thermodynamics of refrigeration and refrigeration cycles. Properties of refrigerants. Design, construction, and operation of refrigerating plants.

717: **Machine Design.** 3-2-3. Pre'q., C.E., 522, 622 and credit or registration in M.E. 701. The theory and practice of machine design as applied to machine elements including screws, belts, chains, shafts, bearings, brakes, and gears. Emphasis is placed on the aspects of machine design relating to various production methods.

721: **Heat Transfer.** 0-3-3. Pre'q., M.E. 616, Math. 706. A study of the fundamental laws of heat transfer by conduction, convection, and radiation; steady and unsteady states; and application to heat transfer equipment.

723: **Gas Dynamics.** 0-2-2. Pre'q., Civil Engineering 621, M.E. 616. A study of the basic concepts of gas dynamics and gas properties, steady-flow, isentropic flow, diabatic flow, flow with friction, wave phenomena and variable-area flow. Introduction to multidimensional flow and experimental techniques.

724: **Seminar.** 0-1-1. Open to seniors. Opportunity is offered for technical discussion, reading of assigned papers, informal talks by instructors and professional engineers, debates on matters of technical interest. Instruction in oral delivery. Seminar further serves to bring the student abreast of current engineering thought.

725: **Steam and Gas Turbines.** 0-3-3. Pre'q., M.E. 616. A study of the theory of steam and gas turbines, their design and operation. Design of nozzles, and flow passages. Energy interchanges in fluid machinery. Turbine control and performance. Performance parameters of gas turbine plant, compressors, combustors and regenerators.

731: **Principles of Servomechanisms.** 0-3-3. Pre'q., senior standing or consent of the instructor. The analysis and design of mechanical systems employing feedback control. The application of the Laplace transform to feedback control problems. Methods of determining system stability. Typical mechanical control elements and their transfer functions. System synthesis.

733: **Mechanical Vibrations.** 0-3-3. Pre'q., Math. 706, C.E. 522, 622. Single and multiple degrees of freedom systems. Rayleigh's method, normal modes, dynamic balancing, vibration isolation and absorption in machines. Vibration of elastic bodies.

735: **Internal Combustion Engines.** 0-3-3. Pre'q., M.E. 616. The design and principles of operation of internal combustion engines. Theories of combustion and detonation. Idealized cycles and processes, combustion charts, fuels and gas tables. Effects of chemical equilibrium and variable specific heats. Injection and carburetion. Engine timing and lubrication theories.

737: **Engineering Analysis.** 0-3-3. Pre'q., Mathematics 706 and senior standing. The development and application of analytical, graphical and approximate methods for solving practical engineering problems. The methods studied involve the use of dimensional analysis, physical models and analogs, the derivation of empirical equations, and the development of alignment charts.

741: **Air Conditioning.** 0-3-3. Pre'q., senior standing or consent of the instructor. A study of air vapor mixtures and psychrometric processes, heating and cooling load calculations, heating and cooling systems, distribution systems, automatic controls, and air filtration. A complete design of an air conditioning system is required.

751: **Senior Mechanical Laboratory.** 6-0-2. Pre'q., senior standing or consent of the instructor. Study of scientific instruments. Preparation

of engineering reports. Fuel and oil analysis based on A.S.T.M. Standards. Pumps and blowers. Heat balance on internal combustion engines.

752: **Senior Mechanical Laboratory.** 6-0-2. Pre'q., M.E. 751. A study of heat transfer devices, including heat exchangers, air conditioning and refrigeration equipment. Thermal conductivity measurements. High pressure air compressors, subsonic and supersonic flow. Special projects.

COURSES FOR GRADUATE STUDENTS ONLY:

**MECHANICAL ENGINEERING:**

801: **Kinematic Synthesis of Mechanisms.** 0-3-3. Techniques of mechanism synthesis. Constrained motion and number synthesis. Computer mechanisms. Robert's Law and Euler-Savary. Works of Beyer, Hain, Rosenauer, Freudenstein and others. Mathematical approach. Analysis of complex kinematic chains. Recent developments of synthesis and analysis in various parts of the world.

802: **Advanced Machine Design.** 0-3-3. An extension of the theories and procedures developed in undergraduate courses in the areas of stress and deflection analysis, lubrication, wear, and gearing.

803: **Advanced Heat Transfer.** 0-3-3. Study of conduction in one, two, and three dimensional systems and under steady and unsteady state conditions, radiation, convection both free and forced. Heat exchangers, heat transfer in high speed flow and in changes of phase, and mass transfer.

815: **Advanced Thermodynamics:** 0-3-3. Study of fundamental concepts, equations of state, first and second laws both individually and combined, and entropy. Thermodynamics of fluid flow, single and two-phase mixtures, power cycles, refrigeration processes, and reactive systems.

824, 825, 826: **Graduate Seminar.** 0-1-1. Surveys, investigations, and discussions of current problems in Mechanical Engineering.

833: **Dynamics of Machinery.** 0-3-3. Advanced dynamics and its application to the design and control of machinery. Balancing of machinery, engine dynamics, and dynamics of automatic-control systems.

850: **Special Problems.** 1-4 semester hours. Advanced problems in Mechanical Engineering. The problems and projects will be treated by current methods used in professional practice.

851: **Research.** Three hours credit.

852: **Thesis.** Three hours credit.

# Department of Petroleum and Geological Engineering

Melvin A. Nobles, Professor and Head of the Department
Professors Rhesa M. Allen, Jr., Troy J. Laswell
Assistant Professors Robert E. Carlile**, W. R. Higgs, Raymond E. Storms

## DESCRIPTION OF COURSES

### PETROLEUM ENGINEERING

*Undergraduate credit only:*

**PETROLEUM ENGINEERING**

**502: Petroleum Engineering Problems.** 0-2-2*. Pre'q., Engineering 401, Geology 411, Chem. 505, Physics 501. Elementary principles and practices of oil field development, including methods and equipment used in modern deep well drilling and completion. Drilling mud calculations and casing design.

**603: Production Methods.** 0-3-3. Pre'q., Petroleum Engineering 502 and Petroleum Engineering 611. Principles of oil field exploitation including two-phase flow, drainage, pump-sucker rod selection, and production decline curves.

**605: Laboratory.** 6-2-4. Pre'q., Chemistry 530; credit or registration in Petroleum Engineering 603. Preparation, testing, and alteration of drilling muds and oil well cement. Analysis of well formation samples.

**611: Petroleum Reservoir Fluids.** 3-2-3. Pre'q., Petroleum Engr. 502, Chem. 505, Chem. 530. Study of pressure-volume-temperature relationship in petroleum reservoir fluids.

*Undergraduate or graduate credit:*

**PETROLEUM ENGINEERING**

**701: Petroleum Reservoir Engineering.** 0-3-3. Pre'q., Petroleum Engr. 603, senior standing in engineering. Engineering applications of fundamental sciences to oil field development and exploitation.

**704: Petroleum Technology and Design.** 3-2-3. Pre'q., Petroleum Engr. 603, Civil Engr. 522. Problem and laboratory course in design, selection and installation of oil field machinery; methods and equipment.

**705: Well-Logging Methods.** 0-2-2. Pre'q., Credit or registration in Petroleum Engineering 701. Theory, operation, and application of modern oil-well-logging methods.

**706: Evaluation of Oil and Gas Properties.** 0-2-2. Pre'q., Economics 501, Petroleum Engr. 705. The factors, principles, and processes used in the evaluation of oil and gas properties; preparation of valuation reports, cost data analyses, and their application to management problems and decisions.

**714: Natural Gas Engineering.** 0-2-2. Pre'q., Petroleum Engineering 603 Petroleum Engineering 611. Production, measurement, compression, and transmission of natural gas; gas flow; estimation of gas reserves; field trip.

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* First number—laboratory hours per week; second, lecture hours per week; third, credit value.

** On leave 1961-62

715: **Natural Gas Engineering Laboratory.** 3-0-1. Pre'q., Credit or registration in Petroleum Engineering 714. Determination of specific gravity of gases, testing and calibration of orifice meters, positive displacement meters, regulators and pressure controllers.

722: **Survey of Geophysical Exploration.** 0-3-3. Pre'q., Geology 615, Mathematics 541, Physics 502. Principles and application of geophysical methods of prospecting; interpretation and correction of data taken in gravimetric, magnetic, and seismic surveys; field methods of geophysical prospecting.

725: **Seminar.** 0-3-3. Pre'q., senior standing in Petroleum Engr., or consent of instructor. Study of recent developments in petroleum production practice, methods, and equipment.

**Petroleum Engineering Summer Practice:** No credit, but required of all petroleum engineers for graduation. Pre'q., two semesters of college work. A minimum of ten weeks of industrial experience in some phase of the petroleum industry. This work must be certified by both student and employer on forms provided for the purpose, and should be completed as soon as practicable after the first two semesters of college training.

COURSES FOR GRADUATE STUDENTS ONLY:

**PETROLEUM ENGINEERING:**

801-802: **Advanced Reservoir Engineering.** 0-3-3. Pre'q., consent of instructor. Programming of high speed computers, general hydrodynamical equations, compressible fluids, well-spacing, water drive and gas drive reservoirs, secondary recovery, application of difference equations.

812: **Composition and Properties of Oil Well Drilling Fluids.** 0-3-3. Pre'q., consent of instructor. Classification, structures and identification of clay minerals, rheological studies of suspensions. Composition and properties of drilling muds, lost returns.

821: **Advanced Natural Gas Engineering.** 0-3-3. Pre'q., Petroleum Engineering 714, Petroleum Engineering 801 or Electrical Engineering 740 and Chemical Engineering 603. Engineering applications of fundamental sciences to the processing of natural gas and natural gasoline; absorption, adsorption, dehydration, heat transfer, blending of gasoline, solution of problems by high speed computers.

823: **Surface Properties of Reservoir Rocks and Reservoir Fluids.** 0-3-3. Pre'q., consent of instructor. Solid surfaces, liquid surfaces, electrical phenomena at interfaces, measurement of surface tension, corrosion, applications of surface phenomena to reservoir engineering.

850: **Special Problems.** 0-1 to 4-1 to 4. Pre'q., consent of instructor. Advanced problems in petroleum engineering will be assigned according to the ability and requirements of the student. An opportunity will be afforded to plan, organize and complete solutions in problems of considerable magnitude with a view toward developing confidence and self-reliance.

851: **Research.** Three hours credit.

852: **Thesis.** Three hours credit.

## GEOLOGY

*Undergraduate credit only:*

**GEOLOGY**

411: **Physical Geology.** 0-3-3. Igneous, sedimentary, and metamorphic rocks; processes and results of erosion of the earth by streams, oceans, winds, glaciers; phenomena of mountains, volcanoes, earthquakes; and the interior of the earth.

412: **Historical Geology.** 0-3-3. Pre'q., Geology 411. History of the earth as revealed in the character and fossil content of rocks; geological maps.

421: **Physical Geology Laboratory.** 3-0-1. Pre'q., registration or credit in Geology 411. Identification of minerals and rocks. Weathering. Study of topographic maps and physiographic features shown thereon. Geologic structures.

422: **Historical Geology Laboratory.** 3-0-1. Pre'q., Geology 421, registration or credit in Geology 412. Introduction to the fossil record. Geologic maps. Studies to illustrate the geologic history of selected portions of North America using geologic maps, fossil specimens, and exercises.

501: **Introduction to Minerals and Rocks.** 3-2-3. Pre'q., Geology 411, Chemistry 401. (Not open to geology majors). Origin, occurrence, character, and classification of common minerals and rocks, and their identification.

505: **Field Methods.** 3-1-2. Pre'q., Geology 412, Civil Engr. 552. Practical field techniques of geologic mapping, including the use of the compass, clinometer, barometer, and plane tables. Use of topographic maps, geologic maps, and structure sections.

509: **Mineralogy,** 3-2-3. Pre'q., Geol. 421, Chem. 402. Crystallography and descriptive mineralogy. Blowpipe and chemical methods of mineral identification. Occurrence, associations, and uses of minerals.

510: **Mineralogy.** 3-2-3. Pre'q., Geol. 509. Continuation of Geology 509.

511: **Petrology.** 3-2-3 Pre'q., Geology 510. An introduction to the formation and classification of igneous, sedimentary, and metamorphic rock-types.

600: **Fundamentals of Geology.** 3-2-3. Pre'q., consent of instructor. Study of the physical and biological history of the earth in brief. Laboratory work in minerals, rocks, fossils, and topographic and geological maps. Designed for experienced elementary teachers, but open to students from all schools excepts majors in Petroleum and Geological Engineering and Geology.

602: **Introduction to Paleontology.** 3-2-3. Pre'q., Geology 412, 422. A survey of invertebrate paleontology devoted to the Phylum Protozoa through Phylum Echinodermata, with attention to the history of the science, rules of nomenclature, and environment of lower animals.

604: **Introduction to Paleontology.** 3-2-3. Pre'q., Geology 602. A continuation of the study of elementary invertebrate paleontology, beginning with the Phylum Bryozoa and extending through the Phylum Arthropoda.

605: **Principles of Stratigraphy and Sedimentation.** 0-3-3. Pre'q., Geology 501 or 510. Classification, composition, properties, and origin of sediments, and the environmental factors controlling sedimentary processes, facies, facies change, and the principles of correlation.

615: **Structural Geology.** 3-2-3. Pre'q., Geology 412, Mathematics 402. The recognition, representation, interpretation, and mechanics of rocks deformation.

620: **Summer Field Course.** (3-8 hr. cr.) Pre'q., Geology 511, 615. A course to be taken by the summer camp method at the camp of any accredited college or university.

*Undergraduate or graduate credit:*

**GEOLOGY**

703: **Petroleum Geological Structures.** 0-3-3. Pre'q., Geology 511 (or

Geology 501), 615. A study of structures favorable to the accumalation of oil and gas. Structure and stratigraphy of typical oil fields.

**707: Geological Subsurface Correlation.** 3-2-3. Pre'q., Geology 501 (or Geology 511). Use of micropaleontology in indentifying subsurface horizons, mechanical analysis of sands, identification of drill cuttings, preparation and interpretation of well logs.

**710: Economic Geology.** 0-3-3. Pre'q., Geology 511, 615. The geology, distribution, and utilization of metallic ore deposits and nonmetallic deposits, with dominant attention to nonmetallic deposits.

**712: Geomorphology.** 0-3-3. Pre'q., Geology 412. Origin, development and classification of land forms. Assigned readings in classical and current geomorphic problems.

**715: Stratigraphy of North America. (Pre-Cambrian and Paleozoic). 0-3-3.** Pre'q., Geology 605, registration or credit in Geology 604 and 615. A study of selected stratigraphic sections, restored sections, paleogeographic maps, and data from parts of North America concerned with rocks of Pre-Cambrian and Paleozoic age.

**716: Stratigraphy of North America (Mesozoic and Cenozoic).** 0-3-3. Pre'q., Geology 605, registration or credit in Geology 604 and 615. A study of selected stratigraphic sections, restored sections paleogeographic maps, and data from parts of North America concerned with rocks of Mesozoic and Cenozoic age.

**720: Directed study of Geologic Problems.** 0-3-3. Pre'q., Senior standing. Special topics within the students' field of interest. Designed for the purpose of developing specific areas of knowledge.

**721: Micropaleontology.** 3-2-3. Pre'q., Geology 604. The study of microfossils used in correlation of well cuttings and outcrop samples, especially foraminifera.

COURSES FOR GRADUATE STUDENTS ONLY:

**GEOLOGY**

**801: Optical Mineralogy.** 3-2-3. Pre'q., Geology 510. Theory and practice of mineral identification with the petrographic microscope.

**803: Engineering Geology.** 0-3-3. Applications of geologic science to the location and construction of dams, reservoirs, aqueducts, bridges, highways, railroads, mines, tunnels, foundations, beach installations, and buildings.

**805: Advanced Structural Geology.** 3-2-3. Pre'q., Geology 615. Structural problems and a study of the evolution of the various structural provinces of the Americas.

**807: Stratigraphy and Structure of the Gulf Coast.** 0-3-3. Specialized study of the stratigraphy and structure of the surface and subsurface sedimentary rocks of the Coastal Plain bordering the Gulf of Mexico. The geologic history of the region will be developed utilizing environments of deposition, lithology, fauna, and tectonics.

**809: Economic Geology of the Gulf Coast Region.** 0-3-3. The genesis, exploration, development, and utilization of the metallic and nonmetallic mineral resources of the Gulf Coast region.

**821: Special Problems.** 0-1 to 4-1 to 4. Advanced problems in geological engineering and geology to be assigned according to the ability and requirements of the student. Problems are designed to develop the student's research technique and to broaden his basic knowledge in his field of specialization.

**851: Research.** Three hours credit.

**852: Thesis.** Three hours credit.

SCHOOL

OF

HOME ECONOMICS


ALICE MILLETT GRAHAM, DEAN

HELEN GRAHAM, DEAN EMERITUS

# TABLE OF CONTENTS



* For information concerning the following, please refer to the General Catalog for Louisiana Polytechnic Institute: Location of College, Buildings and Grounds, Oragnization of College, Rating, Sessions, Degrees, Courses of College Instruction, Veterans' Education, Admission Requirements, Registration, Graduation Requirements, Expenses, Examinations, Credit Examinations, System of Grading, Quality Points, Honors, Conduct and Discipline, Financial Aid, Self-Help, Guidance, Orientation, Student Organizations, Student Publications, Athletics, Placement and Service, Miscellaneous.

# COLLEGE CALENDAR

## FIRST SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open for freshmen, 1 p.m. | Sun., Sept. 10 | Sept. 9 |
| Semester begins | Mon., Sept. 11 | Sept. 10 |
| Dormitories open for upperclassmen, 1 p.m. | Tues., Sept. 12 | Sept. 11 |
| Freshman orientation | Mon., Tu., Sept. 11-12 | Sept. 10-11 |
| Registration | Wed., Th., Sept. 13-14 | Sept. 12-13 |
| Classes begin | Fri., Sept. 15 | Sept. 14 |
| Thanksgiving vacation begins | Wed. Noon, Nov. 22 | Noon, Nov. 21 |
| Thanksgiving vacation ends | Mon., 8 a.m., Nov. 27 | 8 a.m., Nov. 26 |
| Christmas vacation begins | Close of classes, Tues., Dec. 19 | Close of classes, Dec. 18 |
| Christmas vacation ends | Wed., 8 a.m., Jan. 3 | 8 a.m., Jan. 2 |
| Commencement | Tues., Jan. 23 | Jan. 22 |
| Semester ends | Wed., Jan. 24 | Jan. 23 |

## SECOND SEMESTER

| | 1961-62 | 1962-63 |
|---|---|---|
| Dormitories open and semester begins | Tues., Jan. 30 | Jan. 29 |
| Registration | Wed., Th., Jan. 31, Feb. 1 | Jan. 30-31 |
| Classes begin | Fri., Feb. 2 | Feb. 1 |
| Easter vacation begins | Thurs. Noon, April 19 | Noon, April 11 |
| Easter vacation ends | Tues., 8 a.m., April 24 | 8 a.m., April 16 |
| Baccalaureate | Sun., May 27 | May 26 |
| Commencement | Mon., May 28 | May 27 |
| Semester ends | Wed. May 30 | May 29 |

## SUMMER TERM

| | 1961 | 1962 | 1963 |
|---|---|---|---|
| Dormitories open | Mon., June 5 | June 4 | June 3 |
| Registration; term begins | Tues. June 6 | June 5 | June 4 |
| Commencement | Thurs, Aug. 3 | Aug. 2 | Aug. 1 |
| Term ends | Fri., Aug. 4 | Aug. 3 | Aug. 2 |

# OFFICERS OF INSTRUCTION

## PROFESSORS

Alice Millett Graham—B.S., New Mexico State Teachers College; M.S., Iowa State College. (1944)

Merle Burk, *Home Economics*—B.S., Louisiana Polytechnic Institute; M.A., State University of Iowa. (1932)

Willie Fletcher, *Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., Iowa State College. (1942)

Ruth Richardson, *Home Economics*—B.A., Louisiana State Normal College; M.S., Louisiana State University. (1938)

## ASSOCIATE PROFESSOR

Agnes C. Cofer, *Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., Louisiana State University. (1944) (1955)

## ASSISTANT PROFESSORS

Helen Barron, *Home Economics*—B.S., East Texas State College; M.A., Texas Woman's University. (1959)

## INSTRUCTORS

Sophia S. Cook, *Critique; Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1947)

Coralie Saunders, *Critique; Home Economics*—B.S., Louisiana Polytechnic Institute; M.S., University of Arkansas. (1947)

Johnnie A. Speights, *Part-Time, Home Economics*—B.S., Louisiana Polytechnic Institute; A.D.A. (1955)

## HISTORY

The importance of home economics has always been recognized at Louisiana Polytechnic Institute. When the institution was founded provision was made to include home economics in the limited number of courses offered, a decision especially remarkable since no other college in Louisiana and only three in the entire South were teaching home economics at that time. When the college was authorized, in 1919, to grant standard baccalaureate degrees the Bachelor of Science in Home Economics was one of those approved. The importance of home economics was again recognized with the creation of the School of Home Economics in 1939.

Home economics courses have always been planned to meet the highest standards in the profession. Graduates of the Teacher Training Curriculum have been certified to teach in the vocational high schools of the State since the beginning of the vocational program. The School of Home Economics is approved to receive federal funds. Since its introduction in 1939 the Institution Management Curriculum has met the requirements of the American Dietetic Association.

## ADMISSION

An applicant for admission to the School of Home Economics must have graduated with not fewer than fifteen acceptable units from a four-year course in an accredited secondary school.

An applicant for admission to the graduate program must have met the requirements for a bachelor's degree in home economics education at an accredited institution.

## DEGREES

The following degrees are conferred by the School of Home Economics:

Bachelor of Arts in Home Economics
Bachelor of Science in Home Economics
Master of Science

The Bachelor of Arts in Home Economics is conferred on those who graduate with a major in General Home Economics with emphasis on child development, clothing art, home service, or family life education. The Bachelor of Science in Home Economics is conferred on those who major in institutional management or teacher training.

The Master of Science is awarded in the field of home economics education.

## THE MINOR IN HOME ECONOMICS

Students from other schools may take a minor in the

School of Home Economics. In order to allow the student to choose work that will best supplement the major field, the only requirement is 21 hours chosen with the approval of the Dean of Home Economics and the adviser of the student concerned.

For the student who is not interested in specialization, but who wishes a general background in home economics, the following courses are suggested: Home Economics 400, Family Relationships, 3 hours; 614, Child Development, 3 hours; 618, Home Furnishings, 2 hours; 750, Home Residence, 4 hours; Foods, 3 hours; Clothing, 3 hours; Nutrition, 3 hours.

## ELECTIVE COURSES

All courses in home economics are open to non-majors, and prerequisites will be waived for them wherever possible. Following is a list for which there is no prerequisite for non-majors: Home Economics 400, Family Relationships; 515, Textiles; 402, Clothing Construction; 500, Household Equipment; 501, Nutrition. Students may take 614 with only the prerequisite of Psychology 501. It is suggested that the course 500, Household Equipment, and the course 614, Child Development, might be of special interest to men students.

The curricula have been planned with a three-fold purpose: training for citizenship, for a profession, and for family life. The core curriculum, required of all home economics majors, is not limited to courses in the field of home economics. It uses the resources of the entire campus to provide a broad cultural education. The home economics courses in the core curriculum are chosen to provide a background for family life and a foundation for specialization in the various fields of home economics.

## CORE CURRICULUM

All home economics students are required to complete the following courses before graduation:

| General Education | | Home Economics | |
|---|---|---|---|
| English | 12 hrs | Child Development | 3 hrs |
| Speech | 3 hrs | Family Relations | 3 hrs |
| Art | 4 hrs | Foods and Nutrition | 9 hrs |
| Science | 6 hrs | Home Management | 5 hrs |
| (3 must be in Bacteriology) | | Introduction to | |
| Mathematics | 6 hrs | Home Economics | 1 hr |
| Social Science | 12 hrs | Seminar | 1 hr |
| (3 must be in American History) | | Textiles and Clothing | 6 hrs |
| Physical Education | 4 hrs | | |

With one exception* all courses required in the freshman year in all curricula are part of the core curriculum. This enables the student to delay the choice of specialization until the sophomore year.

Since the curricula in home economics are professional ones requiring concentrated work in the major and related fields, no minor is necessary. However, the family life education emphasis has been so planned that the student may elect a minor outside the field of home economics.

A student taking the General Home Economics Curriculum must elect a field for emphasis before registering as a junior. This emphasis may, of course, be selected earlier. After it has been selected, the curriculum should be listed in registering by giving the abbreviation Home Ec Gen: followed by the name of the emphasis. Example, Home Ec Gen: Clo. Art, Home Ec Gen: Ch Dev, Home Ec Gen: Fam Life, Home Ec Gen: H Serv.

*Note: Chemistry in Institution Management

### GENERAL HOME ECONOMICS CURRICULUM

Freshman Year

| First Semester | Hours | |
|---|---|---|
| Art 401, Structure | 2 | |
| English 401, Freshman Composition | 3 | |
| Home Economics 405, Food Preparation | 3 | |
| Home Economics 407, Introduction to | 1 | |
| Mathematics 405, General | 3 | |
| Physical Education, Freshman Activity | 1 | |
| Speech 410 | 3 | 16 |
| **Second Semester** | | |
| Art 475, Structure | 2 | |
| Bacteriology 501, Bacteriology | 3 | |
| English 402, Freshman Composition | 3 | |
| Home Economics 400, Family Relations | 3 | |
| Home Economics 402, Clothing Construction | 3 | |
| Physical Education, Freshman Activity | 1 | 15 |
| Total hours in freshman year | | 31 |

Sophomore Year

| First Semester | Hours | |
|---|---|---|
| English 501, English Literature | 3 | |
| Foreign Language | 3 | |
| Home Economics 406, Meal Management | 3 | |
| Home Economics 501, Nutrition | 3 | |
| Physical Education, Sophomore Activity | 1 | |
| Psychology 501, General | 3 | 16 |
| **Second Semester** | | |
| Emphasis Courses | 1 | |
| English 502, American Literature | 3 | |
| Foreign Language (The one already begun) | 3 | |
| Home Economics 515, Textiles | 3 | |
| Home Economics 614, Child Development | 3 | |
| Math 406 | 3 | |
| Physical Education, Sophomore Activity | 1 | 17 |
| Total hours in sophomore year | | 33 |

Junior Year

| First Semester | Hours | |
|---|---|---|
| Emphasis Courses | 11 | |
| Foreign Language (The one already begun) | 3 | |
| History, American | 3 | 17 |
| **Second Semester** | | |
| Emphasis Courses | 3 | |
| Electives, Free | 4 | |
| Foreign Language (The one already begun) | 3 | |
| Home Economics 650, Home Management | 1 | |
| *Social Science | 6 | 17 |
| Total hours in junior year | | 34 |

Senior Year

| First Semester | Hours | |
|---|---|---|
| Electives, Free | 3 | |
| Emphasis Courses | 6 | |
| English elective numbered 600 or above | 3 | |
| Home Economics 750, Home Management Residence | 4 | 16 |
| **Second Semester** | | |
| Electives, Free | 9 | |
| Emphasis Courses | 3 | |
| Home Economics 701, Seminar | 1 | |
| Social Science | 3 | 16 |
| Total hours in senior year | | 32 |
| Total hours in curriculum | | 130 |

*It is suggested that three hours of social science credit be taken in geography by those students who choose the child development emphasis.

EMPHASIS COURSES

| Child Development — | Hours | |
|---|---|---|
| Home Economics Electives | 5 | |
| Home Economics 615, The Educational Guidance of Young Children | 3 | |
| Home Economics 616, Practice Teaching in Nursery School | 3 | |
| Home Economics 618, Home Furnishings | 2 | |
| Music | 2 | |
| Psychology 505, Child or 504 Educational | 3 | |
| Science elective | 3 | |
| Speech 630 or Library Science 501 | 3 | 24 |

Clothing Art —

| | | |
|---|---|---|
| Art Electives | 8 | |
| Home Economics 514, Family Clothing | 3 | |
| Home Economics 518, Home Decoration | 2 | |
| Home Economics 610, Advanced Clothing | 3 | |
| Home Economics 618, Home Furnishings | 2 | |
| Home Economics 710, Dress Design | 3 | |
| Science Elective | 3 | 24 |

Family Life Education —

| | | |
|---|---|---|
| Electives, free | 14 | |
| Home Economics Electives (must be numbered 600 or above) | 6 | |
| Physical Education 621, First Aid | 1 | |
| Science Elective | 3 | 24 |

Home Service —

| | | |
|---|---|---|
| Home Economics Electives | 5 | |
| Home Economics 500, Household Equipment | 3 | |
| Home Economics 608, Advanced Meal Management | 3 | |
| Home Economics 618, Home Furnishings | 2 | |
| Home Economics 709, Demonstration | 2 | |
| Physics 505, Household | 3 | |
| Physics 506, Household | 3 | |
| Speech Elective | 3 | 24 |

## INSTITUTIONAL MANAGEMENT CURRICULUM

This curriculum fulfills all requirements of the American Dietetic Association for internship in hospitals with approved training courses for dietitians.

| First Semester | Hours | |
|---|---|---|
| Art 401, Structure | 2 | |
| Chemistry 407, General Inorganic | 3 | |
| English 401, Freshman Composition | 3 | |
| Home Economics 405, Food Preparation | 3 | |
| Home Economics 407, Introduction to | 1 | |
| Speech 410 | 3 | |
| Physical Education, Freshman Activity | 1 | 16 |
| **Second Semester** | | |
| Art 475, Structure | 2 | |
| Chemistry 408, General Inorganic | 3 | |
| English 402, Freshman Composition | 3 | |
| Home Economics 400, Family Relations | 3 | |
| Home Economics 402, Clothing Construction | 3 | |
| Physical Education, Freshman Activity | 1 | 15 |
| Total hours in freshman year | | 31 |

### SOPHOMORE YEAR

| First Semester | Hours | |
|---|---|---|
| Chemistry 520, Organic | 4 | |
| English 501, English Literature | 3 | |
| Home Economics 406, Meal Management | 3 | |
| Mathematics 405, General | 3 | |
| Physical Education, Sophomore Activity | 1 | |
| Psychology 501, General | 3 | 17 |
| **Second Semester** | **Hours** | |
| Bacteriology 501 | 3 | |
| English 502, American Literature | 3 | |
| Home Economics 515, Textiles | 3 | |
| Home Economics 604, Nutrition | 3 | |
| Mathematics 406, General | 3 | |
| Physical Education, Sophomore Activity | 1 | 16 |
| Total hours in sophomore year | | 33 |

### JUNIOR YEAR

| First Semester | Hours | |
|---|---|---|
| Chemistry 651, Physiological | 4 | |
| Home Economics 605, Diet Therapy | 2 | |
| Home Economics 609, Experimental Cookery | 3 | |
| Home Economics 614, Child Development | 3 | |
| Home Economics 650, Home Management | 1 | |
| Economics or Sociology (Principles) | 3 | 16 |
| **Second Semester** | **Hours** | |
| Accounting 510, General | 3 | |
| Home Economics 608, Advanced Foods | 3 | |
| Home Economics 701, Seminar | 1 | |
| Home Economics 767, Advanced Nutrition | 3 | |
| Psychology 504, Educational | 3 | |
| Zoology 400, General | 4 | 17 |
| Total hours in junior year | | 33 |

SENIOR YEAR

| First Semester | Hours | |
|---|---|---|
| Electives | 2 | |
| Home Economics 750, Home Management Residence | 4 | |
| Home Economics 760, Quantity Cookery | 4 | |
| Economics or Sociology | 3 | |
| Zoology 525, Human Anatomy and Physiology | 3 | 16 |
| **Second Semester** | **Hours** | |
| Electives | 6 | |
| History, American | 3 | |
| Home Economics 761, Institutional Administration | 5 | |
| Psychology 645, Industrial or Management 670, Personnel Administration | 3 | 17 |
| Total hours in senior year | | 33 |
| Total hours in curriculum | | 130 |

*At the completion of the sophomore or junior year, a Dietetic major may enlist in the Women's Army Corps, U.S. Army Reserve, for the remainder of her college education. Under this program she receives over $200.00 per month, as long as she is a full-time student; on graduation she is commissioned as second lieutenant in the Army Medical Specialist Corps Reserve to complete the Dietetic Internship in an Army hospital.

## TEACHER TRAINING CURRICULUM

This curriculum prepares a student to teach vocational home economics in Louisiana under the provisions of the Federal Act on Vocational Education as outlined in the State Plan.

Freshman Year

| First Semester | Hours | |
|---|---|---|
| Art 401, Structure | 2 | |
| English 401, Freshman Composition | 3 | |
| Home Economics 400, Family Relations | 3 | |
| Home Economics 405, Food Preparation | 3 | |
| Home Economics 407, Introduction to | 1 | |
| Mathematics 405, General | 3 | |
| Physical Education, Freshman Activity | 1 | 16 |
| **Second Semester** | | |
| Art 475, Structure | 2 | |
| Bacteriology 501, Bacteriology | 3 | |
| English 402, Freshman Composition | 3 | |
| Home Economics 402, Clothing Construction | 3 | |
| Physical Education, Freshman Activity | 1 | |
| Speech 410 | 3 | 15 |
| Total hours in freshman year | | 31 |

SOPHOMORE YEAR

| First Semester | Hours | |
|---|---|---|
| Chemistry 407, General | 3 | |
| English 501, English Literature | 3 | |
| Home Economics 515, Textiles | 3 | |
| Home Economics 406, Meal Management | 3 | |
| Mathematics 406, General | 3 | |
| Physical Education, Sophomore Activity | 1 | 16 |
| **Second Semester** | **Hours** | |
| Chemistry 408, General | 3 | |
| English 502, American Literature | 3 | |
| *Home Economics 514, Family Clothing | 3 | |

| | | |
|---|---|---|
| Physical Education, Sophomore Activity | 1 | |
| Psychology 504, Educational | 3 | |
| Zoology 400, General | 4 | 17 |
| Total hours in sophomore year | | 33 |

*With permission of the instructor the student may take Home Economics 710 in the senior year and omit Home Economics 514.

JUNIOR YEAR

| First Semester | Hours | |
|---|---|---|
| Chemistry 520, Organic | 4 | |
| Electives | 4 | |
| History, American | 3 | |
| Home Economics 614, Child Development | 3 | |
| Social Science | 3 | 17 |

| Second Semester | Hours | |
|---|---|---|
| Education 500, Introduction to | 3 | |
| Home Economics 604, Nutrition | 3 | |
| Home Economics 518, Home Decoration | 2 | |
| Home Economics 609, Experimental Cookery | 3 | |
| Home Economics 610, Advanced Clothing | 3 | |
| Social Science | 3 | 17 |
| Total hours in junior year | | 34 |

SENIOR YEAR

| First Semester | Hours | |
|---|---|---|
| Electives | 7 | |
| Home Economics 500, Equipment | 3 | |
| Home Economics 655, Methods | 2 | |
| Psychology 506, Adolescent | 3 | |
| Social Science | 3 | 18 |

| Second Semester | Hours | |
|---|---|---|
| Home Economics 618, Home Furnishings | 2 | |
| Home Economics 650, Home Management | 1 | |
| Home Economics 656, Advanced Methods | 1 | |
| Home Economics 701, Seminar | 1 | |
| Home Economics 708, Observation and Practice Teaching | 5 | |
| Home Economics 750, Home Management Residence | 4 | 14 |
| Total hours in senior year | | 32 |
| Total hours in curriculum | | 130 |

*Graduate Curriculum Home Economics Education*

This curriculum fulfills the requirements for a Master of Science degree with the major in home economics education. The candidate will be required to earn 30 semester hours which may include six hours credit for a thesis. Eighteen hours will be in Home Economics or closely related sciences and twelve must be in Education. The Home Economics and related sciences from which the courses must be chosen and the suggested Education courses are listed below.

| **Home Economics and Sciences** 18 hours | **Semester Hours** |
|---|---|
| Home Economics 605: Nutrition and Diet Therapy | 2 |
| Home Economics 608: Advanced Meal Management | 3 |
| Home Economics 609: Experimental Cookery | 3 |
| Home Economics 615: The Educational Guidance of Young Children | 3 |
| Home Economics 616: Practice Teaching in Nursery School | 3 |
| Home Economics 617: Childhood Education | 3 |
| Home Economics 767: Advanced Nutrition | 3 |
| Home Economics 701: Seminar | 1 |
| Home Economics 709: Demonstration | 2 |
| Home Economics 710: Dress Design and Pattern Construction | 3 |
| Home Economics 801: Special Problems in Home Economics | 3 |
| Home Economics 802: Special Problems in Home Economics (continued) | 3 |
| Home Economics 851: Research | 3 |
| Home Economics 852: Thesis | 3 |
| Bacteriology 605: Food Microbiology | 3 |
| Bacteriology 620: Pathogenic Bacteriology | 3 |
| Bacteriology 630: Advanced Bacteriology | 3 |
| Chemistry 651: General Biochemistry | 4 |
| Chemistry 652: General Biochemistry | 4 |

| **Education** 12 hours | **Semester Hours** |
|---|---|
| Education 800: Foundations of Curriculum Construction | 3 |
| Education 815: Supervision | 3 |
| Education 816: History and Philosophy of Education | 3 |
| Home Economics (Education 808): Vocational Economics Supervision | 3 |

# DESCRIPTION OF HOME ECONOMICS COURSES

## CHILD DEVELOPMENT AND HOME MANAGEMENT

**400: Marriage and Family Relations.** 0-3-3*. Study of the character and personality traits essential to successful family life.

**500: Household Equipment.** 0-3-3. Selection, care and use of equipment, planning of the various work centers in accordance with recent research findings.

**518: Home Decoration.** 4-0-2. Pre'q., Home Economics 402. Practical experience in renovating and making furnishings for the home, including problems involved in furniture refinishing and upholstering.

**614: Child Development.** 2-2-3. Pre'q., Psychology 501 or 504. Growth and development of children under six years of age, observations of children in the nursery school, and elsewhere, and some participation in nursery school activities.

**615: The Educational Guidance of Young Children**.** 4-1-3. Pre'q., Home Economics 614. Objectives and practices in preschool education, and observation and participation in nursery school activities.

**616: Practice Teaching in Nursery School**.** 4-1-3. Pre'q., Home Economics 614. Planning and supervision of experiences for Nursery School children, records of activities that will give an understanding of children's needs as expressed in play.

**617: Childhood Education**.** 0-3-3. Pre'q., Home Economics 614.

**618: Home Building and Furnishing.** 0-2-2. Pre'q., Art 401. Study of the principles which underlie the creation of artistic homes, harmonious house furnishings, and home surroundings.

**619: Obervations and Practice Teaching in Kindergarten.** 6-1-4. Pre'q., Home Economics 614.

**650: Home Management.** 0-1-1. Pre'q., Junior standing. Managerial problems in the home, including time, energy, and family finance management.

**750: Home Management House Residence.** 12-2-4. Nine weeks residence in the home management house where students plan, coordinate and evaluate the many phases of homemaking in a family size group and family type house. Students enrolled in 750 should not register for more than 16 hours.

## FOODS AND NUTRITION

**405: Food Study and Preparation.** 4-1-3. Study of the selection, preparation and service of foods with emphasis on basic principles of cookery.

**406: Meal Management.** 6-1-3. Continuation of the study of basic principles of food preparation as applied in meal management for family, planning, purchase and storage of foods, table service.

**501: Nutrition.** 0-3-3. A study of the principles of nutrition with special emphasis on the part that nutrition plays in health. For home economics majors studying for the Bachelor of Arts in Home Economics and for non-majors.

**604: Nutrition.** 2-2-3. Pre'q., Chemistry 408, Chemistry 520 and Bacteriology 501. The fundamentals of nutrition, their application to nutrition of individuals and families.

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* First number, laboratory hours per week; second, lecture hours per week; third, credit value.

** Undergraduate and Graduate credit

605: **Nutrition and Diet Therapy**.** 0-2-2. Pre'q., Home Economics 405 and 604. A study of the principles of dietetics and their application to special therapeutical diets.

608: **Advanced Meal Management**.** 4-1-3. Pre'q., Home Economics 406. Special problems including preparation for special occasions. Assignments of problems made to meet the needs of students in different major fields.

609: **Experimental Cookery**.** 4-1-3. Pre'q., Chemistry 520, Home Economics 406 and Bacteriology 501. Food preparation from the chemical viewpoint based on study of recent research and laboratory experiments.

767: **Advanced Nutrition**.** 0-3-3. Pre'q., Home Economics 604 and Chemistry 520. The study of the foodstuffs, their properties, digestion and metabolism. Recent developments in the field of nutrition are investigated.

## GENERAL HOME ECONOMICS

407: **Introduction to Home Economics.** 0-1-1. A brief survey of the fields open to home economists with emphasis upon the preparation necessary for each field.

## HOME ECONOMICS EDUCATION

655: **Home Economics Methods.** 0-2-2. Pre'q., Education 500 Philosophy of homemaking education, principles of teaching applied to teaching of home economics in high school.

656: **Advanced Methods.** 0-1-1. Continuation of Home Economics 655, must parallel Home Economics 708.

701: **Seminar**.** 0-1-1. An introduction to current scientific literature in the various fields of home economics including the history of home economics education.

708: **Observation and Practice Teaching.** 10-2-5. Pre'q., Home Economics 655 and a grade average of C. Students observe and teach in a laboratory high school. Students should not register for more than sixteen hours when registered for this course.

709: **Demonstration**.** 4-0-2. Pre'q., Senior standing. Principles and practices of good techniques in demonstration for prospective teachers, home demonstration agents and public utility home economists.

## INSTITUTIONAL MANAGEMENT

760: **Quantity Cookery.** 6-1-4. Pre'q., Home Economics 406. Experience in large quantity food preparation and service, menu planning and methods of purchasing for institutions.

761: **Institutional Administration.** 4-3-5. Pre'q., Home Economics 760. Principles of organization and management applied to institutional administration.

758: **Quantity Food Purchasing.** 0-3-3. Principles of quantity food purchasing as applied to the school lunch program.

## TEXTILES, CLOTHING AND RELATED ART

402: **Clothing.** 4-1-3. Clothing selection and fundamental principles of clothing construction using commercial patterns.

514: **Family Clothing.** 4-1-3. Pre'q., Art 475 and Clothing 402. Selection and construction of clothing for the family with emphasis on clothing for preschool children, and the construction and use of illustrative material.

515: **Textiles.** 0-3-3. Properties that affect the selection, use and care of textiles, identification of various textile fibers by laboratory tests.

610: **Advanced Clothing.** 4-1-3. Pre'q., Art 475, Home Economics 402 and 514 or permission of the instructor. Techniques of tailoring woolen materials, study of the influences of historic costumes on current fashions.

710: **Dress Design and Pattern Construction**.** 4-1-3. Pre'q., Art 475, Home Economics 610. Principles of draping fabric on the dress form and of flat pattern designing from master pattern blocks. At least one garment of original design completed by student.

## GRADUATE COURSES

801: **Special Problems in Home Economics.** 4-1-3. Special problems in Food may be chosen by the student with the approval of his advisor. Laboratory and lecture to be arranged by the major professor.

802: **Special Problems in Home Economics.** 4-1-3. Special problems in Nutrition may be chosen by the student with the approval of his advisor. Laboratory and lecture to be arranged by the major professor.

801-802: **Special Problems in Home Economics.** 4-1-3. Special problems in Textiles and Clothing may be chosen by the student with the approval of his advisor. Laboratory and lecture to be arranged by the major professor. Three hours credit is given each section.

808: **Vocational Home Economics Supervision.** 0-3-3. The value, functions and techniques of supervision are considered. Emphasis is given to the supervision of student teachers.

851: **Research in Home Economics.** 0-3-3.

852: **Thesis in Home Economics.** 0-3-3.

# GENERAL INDEX

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